



NAVAL POSTGRADUATE SCHOOL

MONTEREY, CALIFORNIA

MBA PROFESSIONAL REPORT

**Analysis of the U.S. Department of Defense's Contracting and Logistics
Support During the First 100 Hours of the 2010 Haitian Disaster
Response Operation**

**By: Stella E. Obayuwana
December 2010
Eric D. Lockett
March 2011**

**Advisors: E. Cory Yoder
Aruna Apte**

Approved for public release; distribution is unlimited

THIS PAGE INTENTIONALLY LEFT BLANK

REPORT DOCUMENTATION PAGE			<i>Form Approved OMB No. 0704-0188</i>	
Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instruction, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188) Washington DC 20503.				
1. AGENCY USE ONLY (Leave blank)		2. REPORT DATE December 2010 March 2011	3. REPORT TYPE AND DATES COVERED MBA Professional Report	
4. TITLE AND SUBTITLE Analysis of the U.S. Department of Defense's Contracting and Logistics Support During the First 100 Hours of the 2010 Haitian Disaster Response Operation			5. FUNDING NUMBERS	
6. AUTHOR(S) Stella E. Obayuwana and Eric D. Lockett				
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Naval Postgraduate School Monterey, CA 93943-5000			8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING /MONITORING AGENCY NAME(S) AND ADDRESS(ES) N/A			10. SPONSORING/MONITORING AGENCY REPORT NUMBER	
11. SUPPLEMENTARY NOTES The views expressed in this thesis are those of the author and do not reflect the official policy or position of the Department of Defense or the U.S. Government. IRB Protocol number <u>NPS.2010.0109-IR-EP7-A</u> .				
12a. DISTRIBUTION / AVAILABILITY STATEMENT Approved for public release; distribution is unlimited			12b. DISTRIBUTION CODE	
13. ABSTRACT (maximum 200 words) The devastation caused by the recent earthquake in Haiti dramatically impaired the capabilities of all rapid response efforts. The resulting extreme conditions made it difficult to transport and deliver equipment, materials, supplies, and services to the earthquake victims and the first responders. The objective of this research is to analyze the effectiveness of the contracting and logistics support provided by the Department of Defense (DoD) through its collaborative disaster response effort—Operation Unified Response (OUR). This analysis reviews the initial response time, coordination of efforts, adequacy of support, contract administration and oversight processes, and logistics management of OUR within the first 100 hours of the disaster. Further, this analysis examines how the planners and coordinators of OUR used contracting and logistics to overcome the devastation that challenged their abilities to provide prompt relief to those in Haiti. The research team studied recent DoD disaster response operations to help determine the how effective were DoD's actions in the first 100 hours of the Haitian relief effort. The researchers recommend further research to analyze the cost savings associated with early integration of Contingency Contracting Officers (CCO) and Disaster Response Logisticians into the planning phases and life cycle of contingency operations, and they conclude that the time for DoD to improve its response practices is, NOW!				
14. SUBJECT TERMS Effectiveness, Disaster Response, Stella's Future Contracting and Logistics Model, Joint Operational Planning Phases, Haiti			15. NUMBER OF PAGES 105	
			16. PRICE CODE	
17. SECURITY CLASSIFICATION OF REPORT Unclassified	18. SECURITY CLASSIFICATION OF THIS PAGE Unclassified	19. SECURITY CLASSIFICATION OF ABSTRACT Unclassified	20. LIMITATION OF ABSTRACT UU	

THIS PAGE INTENTIONALLY LEFT BLANK

Approved for public release; distribution is unlimited

**AN ANALYSIS OF THE U.S. DEPARTMENT OF DEFENSE CONTRACTING AND
LOGISTICS SUPPORT DURING THE FIRST 100 HOURS OF THE 2010 HAITIAN
DISASTER RESPONSE OPERATION**

by

Stella Obayuwana, Lieutenant Commander, United States Navy
BS (honors), Industrial Chemistry, University of Benin, Nigeria–2004
MBA, Webster University, IL–2006

Submitted in partial fulfillment of the requirements for the degree of

MASTER OF BUSINESS ADMINISTRATION

from the

**NAVAL POSTGRADUATE SCHOOL
December 2010**

Eric Lockett, Lieutenant Commander, United States Navy
Bachelor of Business Administration and Finance, National University, San Diego–1999

Submitted in partial fulfillment of the requirements for the degree of

MASTERS OF BUSINESS ADMINISTRATION

from the

**NAVAL POSTGRADUATE SCHOOL
March 2011**

Authors:

Stella Obayuwana

Eric Lockett

Approved by:

Elliott Cory Yoder, Lead Advisor

Dr. Aruna Apte, Support Advisor

William R. Gates, Dean
Graduate School of Business and Public Policy

THIS PAGE INTENTIONALLY LEFT BLANK

AN ANALYSIS OF THE U.S. DEPARTMENT OF DEFENSE CONTRACTING AND LOGISTICS SUPPORT DURING THE FIRST 100 HOURS OF THE 2010 HAITIAN DISASTER RESPONSE OPERATION

ABSTRACT

The devastation caused by the recent earthquake in Haiti dramatically impaired the capabilities of all rapid response efforts. The resulting extreme conditions made it difficult to transport and deliver equipment, materials, supplies, and services to the earthquake victims and the first responders. The objective of this research is to analyze the effectiveness of the contracting and logistics support provided by the Department of Defense (DoD) through its collaborative disaster response effort—Operation Unified Response (OUR). This analysis reviews the initial response time, coordination of efforts, adequacy of support, contract administration and oversight processes, and logistics management of OUR within the first 100 hours of the disaster. Further, this analysis examines how the planners and coordinators of OUR used contracting and logistics to overcome the devastation that challenged their abilities to provide prompt relief to those in Haiti. The research team studied recent DoD disaster response operations to help determine the how effective were DoD's actions in the first 100 hours of the Haitian relief effort. The researchers recommend further research to analyze the cost savings associated with early integration of Contingency Contracting Officers (CCO) and Disaster Response Logisticians into the planning phases and life cycle of contingency operations, and they conclude that the time for DoD to improve its response practices is, NOW!

THIS PAGE INTENTIONALLY LEFT BLANK

TABLE OF CONTENTS

I.	INTRODUCTION.....	1
A.	PROBLEM STATEMENT	1
B.	RESEARCH OBJECTIVES.....	2
C.	RESEARCH QUESTIONS.....	4
D.	SCOPE AND DELIVERABLES	6
E.	LIMITATIONS.....	7
F.	METHODOLOGY	7
G.	POTENTIAL BENEFITS FOR FUTURE OPERATIONS.....	9
H.	ORGANIZATION OF REPORT	9
I.	SUMMARY	10
II.	LITERATURE REVIEW	11
A.	BACKGROUND	11
1.	History of Haiti's Natural Disasters.....	12
2.	Partial Overview of Disasters and Disaster Response Operations in the United States Since the Twentieth Century	14
3.	Creation of the Federal Emergency Management Agency (FEMA)	16
4.	Other Domestic Disasters	16
B.	DISASTER RESPONSE LOGISTICS	17
C.	CONTINGENCY CONTRACTING.....	20
1.	What Is a Contingency?	20
2.	The Phases of Contingency Operation.....	21
D.	OVERVIEW OF DOD SOUTHERN COMMAND (SOUTHCOM)	24
1.	Scope of Responsibilities	24
2.	Operation Unified Response (OUR).....	25
E.	SUMMARY	26
III.	RESEARCH QUESTIONS ANALYSIS.....	27
A.	PRESENTATION OF INFORMATION AND ANALYSIS.....	27
B.	RESEARCH QUESTIONS.....	28
1.	Primary Research Question	28
2.	Secondary Research Question	30
3.	Tertiary Research Questions	32
4.	Additional Interview Question #1.....	37
5.	Additional Interview Question #2.....	43
C.	SUMMARY	46
IV.	DETERMINATIONS FROM ANALYSIS.....	47
A.	COMMAND AND CONTROL (C2).....	48
B.	IMPACT OF C2 ON OUR EFFECTIVENESS	50
1.	Ineffective Communication	51
2.	Lack of Coordination of Efforts (COE)	52
3.	Misalignment of Tasks With Operational Goals.....	53

	4. Inadequate Situational Awareness	54
C.	PHASE ZERO PLANNING.....	55
D.	STELLA’S FUTURE CONTRACTING/LOGISTICS MODEL (SFCLM)	56
	1. Disaster Response Joint Logistics (DRJL) Pipelines	57
	a. Disaster Response Joint Logistics Functions and Certification.....	57
	b. ILE Certified Logistician	59
	c. DR Requirements Identifiers (DRI)/ Requisitioners (DRR).....	60
	d. Logistics Task Teams (LTT).....	61
	2. Disaster Response “Joint” Contracting Support (DRJCS) Pipeline.....	62
	a. Integrated Planner and Executor (IPE)	65
	b. Logistics Contract Executor and (LCE)/CCO	65
	c. Field CCO (FCCO)	66
	3. Additional Steps Required for Effective SFM Implementation	66
	a. Alliances and Partnerships.....	66
	b. Regional Segmentation	66
	c. Funding	67
	d. Personnel Identification and Task Assignments	67
	e. Requirement Determination	67
	f. Barriers and Restrictions	68
	4. Assumptions in Developing the SFM	68
	5. Limitations to the SFM Implementation	69
	6. Implications and Recommendations for SFM Implementation	69
E.	SUMMARY	70
V.	SUMMARY, CONCLUSIONS AND AREAS FOR FURTHER RESEARCH ...	71
A.	SUMMARY	71
B.	CONCLUSION	73
	1. What Went Right	74
	2. What Went Wrong.....	76
C.	RECOMMENDATIONS.....	77
D.	AREAS FOR FURTHER RESEARCH.....	80
	LIST OF REFERENCES.....	81
	INITIAL DISTRIBUTION LIST	85

LIST OF FIGURES

Figure 1.	Haiti Earthquake Intensity Map (SOUTHCOM, 2010).....	14
Figure 2.	Organizational Chart for Disaster Response Logistics and Contracting	57

THIS PAGE INTENTIONALLY LEFT BLANK

LIST OF TABLES

Table 1.	Functional requirements and certification level of DRJL.....	58
Table 2.	Disaster Response Logistics Certification Requirements	59
Table 3.	Functional requirements and certification levels for DRJCO.....	63
Table 4.	YTTM for Contingency Contracting Operations (Yoder, 2004, p. 17)	64

THIS PAGE INTENTIONALLY LEFT BLANK

LIST OF ACRONYMS AND ABBREVIATIONS

ACC	Army Contracting Command
APOD/E	Air Point of Debarkation/Entry
ARC	American Red Cross
AT	Aviation Electronics Technician
BQC	Basic Qualification Course
COCOM	U.S. Combatant Commander
DoD	Department of Defense
DOS	U.S. Department of State
ECC	(Army) Expeditionary Contracting Command
FDAA	Federal Disaster Assistance Administration
FEMA	Federal Emergency Management Agency
FISC	Fleet Industrial Supply Center
GAO	Government Accounting Office
HA/DR	Humanitarian Assistance/Disaster Response
HC-4	Helicopter Support Squadron Four
HUD	Department of Housing and Urban Development
IDIQ	Indefinite Delivery, Indefinite Quantity
IFRC	International Federation of Red Cross and Crescent Societies
JFC	Joint Forces Command
JOPES	Joint Operational Planning and Execution Systems
JTF	Joint Task Force
LFA	Lead Federal Agency
MAC	Multiple Awards Contracts
MBA	Master of Business Administration
MISO	Military Intelligence Support Operations
MOOTW	Military Operations Other Than War
MSC	Military Sealift Command
NACO	Navy Acquisition and Contracting Officer
NGO	Non-Government Organizations

NHC	National Hurricane Center
NOLSC	Naval Operational Logistics Support Center
NVOAD	National Voluntary Organizations Assisting Disaster
OCS	Officer Candidate School
OUR	Operation Unified Response
ROMO	Range of Military Operations
SOUTHCOM	U.S. Southern Command
SPOD/E	Sea Point of Debarkation/Entry
U.S.	United States
USAID	U.S. Agency for International Development

ACKNOWLEDGMENTS

We thank God for the strength and steadfastness he provided them in completing this research. We also thank our families and friends for their love, care and support throughout the MBA program and throughout the long days and nights we spent working on this project. We could not have done this without them.

We also thank the following Naval Postgraduate School (NPS) Staff:

Prof Cory Yoder and Prof. Aruna Apte, we thank you for your guidance, support and patience throughout this project. Most especially, we thank you for agreeing to work with us on this project and giving up your valuable time to guide us even at short notices.

Prof. Rene Rendon, thank you for giving us project ideas and leading us on the right path. We have learned a lot from you.

Prof. Eitelberg and Prof. Hudgens, thank you for setting the foundation for this work. We could not have started without your guidance.

Prof. Suchan, thank you for your lecture on the writing and presenting of academic work. Though tedious and demanding, we learned valuable lessons from your course, which eased the writing of this analysis.

Finally, we wish to extend our thanks to **CAPT Vincent Clifton, LCDR Johnetta Thomas, CPT Orlando Torres, LT Terry Henderson**, SOUTHCOM and NOLSC staff members who provided insight and information for this research.

Thank you all for your contributions and support.

ABOUT THE AUTHORS

Lieutenant Commander Stella Obayuwana enlisted in the Navy in 1996, in her hometown of Brooklyn New York, and was commissioned an Ensign in 2000. She graduated with a BS Degree (honors) in Industrial Chemistry from the University of Benin, Nigeria, and received a MBA from Webster University, IL. She also received a second MBA in Acquisition and Contracts from the Naval Postgraduate School, Monterey, CA.

As an enlisted Sailor, she was assigned to the HC-4 as Aviation Electronics Technician (AT), and the Naval Depot, North Island, CA as Calibration Technician.

Her assignments as a commissioned officer are, Disbursing Officer, USS John F. Kennedy (CV 67) where she was accountable for over \$10M in government funds and provided pay-related services to 5,500 ship's personnel. She later became the Kennedy's Sales Officer and won the Sales and Services Excellence and Best in Class awards for ship's store management excellence. As the Supply Department Head on the USS GUNSTON HALL (LSD 44), she completed an Expeditionary Strike Group deployment providing logistics, food services, and sales support to over 700 personnel and coordinated the Exercise Image Nautilus receptions. She earned the NEXCOM Sales and Services Excellence.

LCDR Obayuwana shore assignments are, Naval Operational Logistics Support Command (NOLSC) as a Watch Officer, NAVAIR, Patuxent River, as a Navy Acquisition Contracting Officer (NACO) Intern, where she was certified NACO Level II and Integrated Logistics Level I Certification, Ship's Store Officer, NSA Bahrain, from 2003.

Her decorations include: Navy and Marine Corps Commendation Medal, Navy Achievement Medal, Navy Good Conduct Medal and numerous unit and campaign citations and awards. LCDR Obayuwana is single and hopes to someday have children.

Lieutenant Commander Eric D. Lockett is a native of Rockford, IL. In June 1991, he enlisted as an Aviation Electronics Technician. He was later selected for the

Enlisted Education Advancement Program (EEAP), and then went on to earn a Bachelor of Business Administration and Finance degree from National University at San Diego, CA. In May 2000, he was commissioned at Officer Candidate School, Pensacola, FL.

His first sea assignment as an SH-60B LAMPS MK-III technician with HSL 45 where he deployed onboard various combatant commands. His initial Division Officer afloat assignment was onboard the USS IWO JIMA (LHD 7), where he deployed in support of OIF and OEF. Most recently, he served as the Supply Officer of the USS MASON (DDG 87), where he again deployed in support of Overseas Contingency Operations.

Ashore, LCDR Lockett was the Director of Supply Training at Fleet Training Center, Norfolk. Soon after, he was selected to participate in a NAVSUP Internship specializing in Petroleum Management at the U.S. Fleet and Industrial Supply Center Yokosuka Japan.

He earned his MBA at the Naval Postgraduate School in Monterey, with a concentration in Supply Chain Management. LCDR Lockett was awarded the Navy and Marine Corps Commendation Medal, Navy and Marine Corps Achievement Medal (two stars) and various campaign and unit awards. He is Defense Acquisition Level II Certified for Logistics and has Navy subspecialties in Operational Logistics (3212S) and Petroleum Management (1307S).

LCDR Lockett is married to CPT Tanya R. Lockett, an Environmental Science Officer in the Army Medical Service Corps. At the time of this project, CPT Lockett served as a Brigade Preventative Medicine Officer at Camp Casey in South Korea. They have two boys, Eriq (12) and Tariq (9).

THIS PAGE INTENTIONALLY LEFT BLANK

I. INTRODUCTION

The destruction caused by the 2010 earthquake in Haiti dramatically impaired the capability of all rapid response efforts. The extreme conditions made it difficult to transport and deliver needed equipment, supplies, and services to the people of Haiti and first responders on the scene. The role of the U.S. Department of Defense (DoD) during contingency operations is not to provide direct contracting and logistic support to disaster victims per-se, but rather to ensure that the warfighters and other DoD personnel receive timely and efficient supplies and services while supporting disaster operations (Clifton, 2010). This research team examined the effectiveness of the initial response time, planning and coordination, contract award administration and oversight, and other contracting and logistics support within the first 100 hours of the DoD disaster response effort. The DoD commenced Operation Unified Response (OUR), headed by U.S. Southern Command (SOUTHCOM), to coordinate the DoD's response effort in support of Haiti. This was commensurate to the establishment of agencies such as the Federal Emergency Management Agency (FEMA) and the U.S. Agency for International Development (USAID), which manages the coordination of all U.S. disaster response efforts domestic and abroad, respectively.

When disaster strikes abroad, the U.S. Department of State (DOS) serves as the Lead Federal Agency (LFA) and relies on its regional bureau and USAID to coordinate the overall response (Travayiakis, 2008). Therefore, all U.S. government organizations and agencies must coordinate their efforts with USAID, establish interagency alliances, and form alliances with non-government organizations (NGO) as well as other nations in order to formulate the right mix of contracting and logistics support needed during contingency operations.

A. PROBLEM STATEMENT

In responding to the 7.0-magnitude earthquake that devastated Haiti on Tuesday, January 12, 2010, OUR first responders arrived in Haiti within 48 hours to provide support and services to DoD personnel involved in the disaster relief effort; however,

requirements and personnel responsibilities were initially unclear, making the first 100 hours of the response effort uncoordinated and chaotic (Clifton, 2010). The time it took for DoD to respond was still less than the length of time that human beings could survive without food or water (Modric, 2009). According to Modric, doctors cite the timeframe for human survivability without food as three to four weeks and survivability without water as two to ten days depending on the person's initial health, metabolism, state of mind, environment, etc. In Haiti, the harsh environment and critical medical conditions/health issues caused by the earthquake coupled with the resulting deficiencies in sanitation and nutrition severely diminished the survivability rate of the victims—except timely relief was provided. Although OUR personnel were on ground within 48 hours of the Haitian disaster, they could not provide contracting and logistics aid fast enough.

The devastation and extreme conditions in Haiti made delivery and transportation of fuel, equipment, supplies, and services extremely difficult. Response efforts were further thwarted by hasty planning and forecasting, misaligned contracting and logistics capacities, and vague requirements and responsibilities (Clifton, 2010). During disasters, when starvation and health issues like lethargy, physical weakness, weakened immune system, and inadequate body-temperature control can adversely affect victims, on-time relief is crucial to their survival. Therefore, it is imperative that relief is available to victims immediately after disasters. Researching the challenges that OUR team faced during the Haiti disaster response will enable planners and coordinators to identify best practices. By incorporating data from lessons learned in Haiti response operation, DoD will develop ways to overcome these challenges to be better prepared for future crisis.

B RESEARCH OBJECTIVES

The primary objective of this research is to determine DoD's effectiveness of the DoD contracting and logistics support in Haiti during the initial response phase of the disaster. To achieve these objectives, the researchers examined the immediate basic and logistics requirements of the victims and responders, how those requirements were determined and if the requirements were met during the first 100 hours of OUR. The researchers considered the different response locations available to DoD in determining

whether or not the locations proximities to Haiti helped or hindered the efficiency in meeting the requirements. This analysis used the Phase Zero concepts as a framework for exploring DoD's preplanning effort and incorporation of contingency contracting officers into the planning phases of DoD operation.

The secondary objective of this research is to analyze how planners and coordinators of OUR used contracting and logistics to overcome the devastation that challenged their ability to provide prompt relief to those in Haiti. The researchers examined the DoD components that were involved in the response operation and to establish how and when tasks and responsibilities were assigned. Early planning, training and appropriate level of logistics and contracting personnel involvement in Operational Planning (OPLAN) are instrumental to coordination and timely deployments of DoD assets during disasters. In addressing the coordination among the key players, the researchers identified situational awareness command and control, communications as key factors for effective response operations; these were specifically addressed in Chapter IV as part of the team's determination from findings.

A tertiary research objective is to review the contracting support and processes and that were utilized in OUR and whether there was sufficient contracts oversight and administration during OUR given the extreme circumstances in Haiti. From information provided by participants, DoD utilized Synchronized Pre-Deployment and Operational Tracking (SPOT) as a means of tracking its contractors. The researchers examined the application of SPOT in Haiti to determine its effectiveness in meeting contracts oversight requirements.

Although the main objective of this research was not to examine the challenges encountered by the DoD response team during OUR, the researchers deemed that addressing these challenges will shed more light into why DoD was or was not effective during the first 100 hours of its response to the Haiti disaster response. Additionally, the researchers, analyzed how performance and throughput were measured since the effectiveness of an operation can be further analyzed based on the standard of performance measurement.

C. RESEARCH QUESTIONS

To determine DoD's response effectiveness during the first 100 hours of OUR it was critical for the researchers to develop research questions that would address the research objectives. The researchers noticed that when left unguided, interviewees at times felt at liberty to provide superfluous information, which often resulted in conceptual dichotomy. To preclude these situations and to keep interviewees focused on providing only relevant information for this analysis, the researchers developed the interview questions below to specifically address the research objectives.

The first two groups of interview questions addressed the primary research objective while the third set of interview questions addressed the secondary research objective, and the fourth and fifth sets of interview questions addressed the third research objective. Additionally, the sixth and seventh sets of questions addressed the challenges DoD encountered during OUR and how it measured performance and throughput. The interview questions will be denoted by the letters IQ, while the primary, secondary and tertiary questions will be denoted by numbers 1 through 3.

The primary research question is as follows:

1. How effective was DoD's contracting and logistics support to Haiti within the first 100 hours of the disaster?

The primary research question was tailored to address the primary research objective; however, the following supplementary questions were required to successfully answer the research question.

IQ-1: What were the immediate basic and logistics requirements?

IQ-1a: How were requirements determined?

IQ-1b: Where these requirements met in a timely manner?

IQ-2 What were relief locations available to DoD during OUR?

IQ-2a: Were there alternate supply sources where components closest to contingency locations (domestic/international) would respond quickly?

The secondary research objective was addressed by the second research question and its supplementary questions as follow:

2. How did planners and coordinators of OUR use contracting and logistics to overcome the devastation that challenged their ability to provide prompt relief to those in Haiti?

IQ- 3: How were contracting and logistics efforts coordinated?

IQ- 3a: Was there effective command and control?

IQ- 3b: At what point were tasks and responsibilities assigned?

IQ- 3c: Was prior training conducted to prepare first responder for their assigned responsibilities?

IQ- 3d: Were contracting and logistics personnel integrated into the operational planning phase (OPLAN)?

The third research question and the supplementary questions are as follows:

3. What contracting support and processes were utilized during OUR and was there sufficient contracts oversight and administration given the extreme circumstances in Haiti?

IQ-4: What were the contracting support requirements?

IQ-4a: How were these requirements determined?

IQ-4b: Were there pre-awarded contracts in place prior to the disaster?

IQ-4c: What were the contract types?

IQ-4d: Was there adequate competition in awarding the contracts?

IQ-4e: What contracting methods and procedures were utilized?

IQ-4f: How were contracts negotiated and awarded?

IQ-5: Was there adequate contract administration and contracts oversight?

Finally, we addressed the following Additional Interview Questions based on their significance in DoD's effectiveness during OUR. Each of these additional questions

has 11 and 5 sub-questions. For the ease of compilation, only the additional research questions are listed but the sub-questions will be listed and analyzed in Chapter III.

4. What were the contracting and logistics challenges?

5. Performance Measurement and throughput:

Responses to the above seven interview questions helped the researchers build an objective research analysis that was vetted through a panel of experienced subject matter experts in the fields of contracting and disaster response logistics. The analysis highlights the effectiveness of DoD contracting and logistics planning and coordination during the first 100 hours of OUR.

D. SCOPE AND DELIVERABLES

The scope of this research include information gathered from participants interviewed by the researchers, information gathered from past and present reports on disasters, disaster relief operations, and DoD involvement in the business of disaster response and contributions from subject matter experts who were involved in OUR. The deliverables were designed specifically for the purpose of this research and to answer the research questions previously identified. This research achieved the following objectives:

- a. Collected and examined information on OUR from several sources, including subject matter experts and reviewed studies on contingency contracting and disaster response logistics;
- b. Utilized the information collected to analyze the DoD's effectiveness during OUR. Additionally, it addressed the coordination of logistics and contracting capabilities required to meet DoD response objectives and the challenges encountered by the response personnel;
- c. Determined DoD's response effectiveness from the analysis performed and the researchers impression from the interviews conducted and information reviewed;
- d. Developed a model, the Stella's Future Contracts and Logistics Model (SFCLM), which offers the logistics parallel to the Yoder Three-Tier

Model (YTTM) hierarchy for credentialing contingency contracting officers (Yoder, 2004). This model promotes early identification and training of disaster relief logisticians and contracting specialist to maximize DoD's disaster response effectiveness;

- e. Answered the research questions, proposed relevant recommendations, and suggested areas for further research.

SOUTHCOM already has a disaster response process in place for OUR's disaster response operations. Therefore, the alternative approach is developed to streamline and improve that process by defining possible logistics requirements, mapping out possible response centers through regional segmentation, and creating a model to facilitate pre-awarded contracts such as: Indefinite Delivery, Indefinite Quantity (IDIQ) contracts and Multiple Awards Contracts (MAC) prior to disasters (Yoder, 2010), this preplanning initiative will enable the delivery of rapid logistics support to disaster victims.

E. LIMITATIONS

The most limiting factor of this research was this team's ability to gather accurate accounts of the actions taken from the time OUR was initiated to the 100th hour of the operation. There was also minimal documented data (statistical and non-statistical) available to this team that focused on OUR's contracting and logistics effort during the first 100 hours of the operation. Therefore, much of the information pertaining to the actual events of the first 100 hours came from interviews and internet resources. Additionally, establishing the exact hour that operations began limited the team's ability to properly frame the accounts to be examined and/or provide a timeline of the events. Such data is stated in an operation order, which is classified information. This study reveals only unclassified research.

F. METHODOLOGY

The researchers are a team of two Navy Lieutenant Commanders who are students in the fields of Contracting and Logistics at the Naval Postgraduate School, Monterey, California. The team members have over thirty years of combined military service, twenty years of combined logistics and supply chain management experience, and three

years of contracting. Additionally, a Senior Lecturer of Contingency Contracting and Professor of Logistic Operations with over fifty years of combined experience provided the researchers with valuable academic materials and professional guidance throughout the conduct of this analysis. This team chose the Haiti disaster response operation for research due to their common interests in improving DoD's logistics and contracting processes to facilitate effective disaster response efforts.

The team began this analysis by reviewing a variety of works pertaining to the 2010 Haiti disaster, as well as other disaster response logistics and contracting academic literature. The team focused its effort on gathering and consolidating literature from sources like the Government Accounting Office (GAO), Congress, Combatant Commanders (COCOM), and government agencies. These readings covered past and present disaster response efforts involving DoD in order to help formulate an informed opinion of DoD disaster response operations. By reviewing this literature, the researchers uncovered historical data on some past natural and man-made disasters and data on how the U.S., and DoD in particular, responded to them.

The researchers also interviewed and collected data from personnel who were on ground immediately following the earthquake, those who were involved in the planning and coordination of OUR and other subjects matter experts assigned to the following DoD commands:

1. U.S. Southern Command (SOUTHCOM), Miami, FL – served as the lead command in the JTF Operation Unified Response;
2. Fleet Industrial Supply Center (FISC), Jacksonville, FL – provided contracting and logistics capabilities in addition to delegating contracting and logistics personnel to support OUR;
3. Naval Operational Logistics Support Center (NOLSC), Norfolk, VA – coordinates logistics of naval vessels and naval support personnel involved in OUR.

With the data collected, the research team reviewed studies on contingency contracting and disaster response logistics, analyzed recent humanitarian operations involving DoD and the recommendations from studies conducted by experts, such as the

disaster/humanitarian professionals of the Fritz Institute¹. The researchers were able to identify some developments in the way DoD responds to disasters, but they also found some shortcomings the response process, such as improper precontingency (Phase Zero) planning, Command, Control, and Communications, and uncoordinated response among the various agencies, which adversely impacted the delivery lead times and effectiveness of the operations. Armed with the research data and the JEBC, YTTM, and Phase-Zero concepts, the researchers proposed the SFCLM Model to further streamline and improve DoD's disaster relief effort (Yoder, 2010).

G. POTENTIAL BENEFITS FOR FUTURE OPERATIONS

The researchers believe that this research will broaden understanding of the intricate details of disaster response and pinpoint some of the reasons why DoD's first responders could not provide effective response to the disaster victims upon their arrival in Haiti. The result of this study will be pertinent to planning for future disasters and disaster response operations with improved methodology, modeling, and strategy implementation. Coupled with advanced training, the result of this research may allow DoD to improve its response time and the quality of support it provides, while reducing the cost of providing "knee-jerk" logistics supports and contract awards, and the potential issues and conflicts that can result if important contracting guidelines are neglected in accommodating the compelling needs of disaster response and in providing urgent response to disaster victims.

H. ORGANIZATION OF REPORT

This research is organized as follows: Chapter I, Introduction, introduces the case study and provides information on the background, the objectives of the research, the problem statement, identifies the scope and deliverables, lists the potential benefits and limitations of the study, illustrates the method used in conducting the study, and outlines how the research is organized. Chapter II, Literature Review, examines pertinent data,

¹ "The Fritz Institute is a nonprofit organization that works in partnership with governments, nonprofit organizations and corporations around the world to innovate solutions and facilitate the adoption of best practices for rapid and effective disaster response and recovery." (Fritz Institute, 2010).

articles, reports, publication, and scholarly work on disasters, disaster relief efforts, contingency contracting, disaster response/humanitarian logistics, and other topics on disaster and disaster response operations relevant to this research. Chapter III, Research Questions Analysis, the researchers analyzed the data collected from interviewees, data collected from online sources, as well as other sources such as academic work on disaster responses and reports written by subject matter experts in the field of logistical and/or contracting. The analysis answers the interview questions developed by the researchers and sets the stage for determination of DoD's effectiveness addressed in Chapter IV. Chapter IV, Determinations and Findings, utilized the answers and findings from the previous chapter to interpret the case study results by presenting a situational analysis and comparative analysis of DoD's effectiveness in Haiti disaster relief and expanded on the JEBC, YTTM and Phase-Zero concepts to create an alternate model, the SFCLM, for disaster response (Yoder, 2010). Chapter V, Conclusion and Recommendations: summarizes the case study, outlines the implications for future disaster response operations, and provides recommendations for future research.

I. SUMMARY

Chapter I provided an introduction to DoD's involvement in the disaster response effort to Haiti. It informed the reader that the effectiveness of DoD's logistics and contracting support within the first 100 hours of Operation Unified Response is the focus of this research, which then led into the purpose. Furthermore, the evolution of DoD's disaster response efforts was revealed in an in depth background of disasters in which the DoD was involved, as well as a brief history of Haitian disasters. This chapter also presented the research objective and questions, some research limitations, the method in which the research was accomplished, and potential benefits.

Chapter II details the literature used as the basis of this research. Additionally, it describes disaster-response logistics, contingency contracting, and some challenges of each. Finally, the phases of joint operational planning are discussed in this chapter as well.

II. LITERATURE REVIEW

This literature review examines present and historical literature on domestic and international disasters, with emphasis on Haiti and U.S., to evaluate the effectiveness of DoD disaster responses, in terms of providing expedited supplies and services to disaster victims and those responding to the disaster.

A comprehensive review of related literature showed that initial response, or assessment period, tends to be chaotic and reactive in nature due to unclear requirements and rapid response times, as opposed to the detailed and structured planning associated with a long-term, sustained relief operation (Apte, 2009). Although, DoD's response to Haiti evolved into a sustained relief operation, this study concentrates on DoD's effort in the planning and preparation phase of the disaster response life cycle, termed Phase Zero, into the start of deployment Phase I, including the first 100 hours of the Haiti disaster response.

A. BACKGROUND

The rumble and mayhem from the 2010 Haiti earthquake made DoD's response to the disaster and the ensuing recovery efforts excruciating at best. Housing, hospitals, schools, and many government buildings were destroyed. Vital utilities like water and electricity were completely disrupted, and major transportation routes were damaged and/or blocked, including the nation's primary seaport. Search and rescue was one of the initial primary missions. The lack of usable transportation routes, communication networks, infrastructure, electricity, and clean water severely hindered all efforts to deliver assistance to the disaster stricken nation of Haiti (Taft-Morales & Margesson, 2010).

To fully understand the involvement of DoD in the business of disaster response, an overview of some past and present disasters that struck Haiti and the U.S. is necessary. This background gives the history of Haiti and U.S. disasters over several centuries, and how the U.S. responded to those disasters. It also reveals the organizations, agencies and infrastructure U.S. and DoD established to coordinate their disaster response efforts and

as a part of the U.S. National Security Strategic direction to broaden DoD's involvement in humanitarian assistance and disaster response, relief, and recovery operations.

1. History of Haiti's Natural Disasters

Located at latitude 19° 00' north of the equator and longitude 72° 25' west of the Greenwich, Haiti occupies 27,560 sq km of land and 190 sq km of water and covers two thirds of the island of Hispaniola—the Dominican Republic occupies the remaining one third. Other neighboring islands include Jamaica, Cuba, Bahamas and Puerto Rico. Haiti's terrain is rough mountainous and sits in the middle of the hurricane belt subject to severe storms during the periods between June and October each year, with occasional flooding, earthquakes, and periodic droughts. This makes Haiti one of the most seismically active islands in South America (CIA, 2010). Its long history of deadly earthquakes dates back to the 1700s. According to the French historian, Moreau de Saint-Méry (1750–1819), the earthquake that struck Haiti in October 1751 destroyed all but one masonry building in the country's capital of Port-Au-Prince, leaving behind a devastation that would take several years to rebuild. Another destructive earthquake occurred in June 1770 and destroyed the whole city; in May 1842, an earthquake destroyed Cap-Haitien and Sans-Souci Palace; in 1946, a magnitude 8.0 earthquake struck Dominican Republic and shook Haiti, producing a Tsunami, which killed 1,790 people (Soeze, 2010).

Overall, Haiti catastrophes range from man-made disasters to acts of God. For instance, Hurricane Gordon (1994), Hurricane George (1998), and Hurricane Jeanne (2004) claimed 1,000, 400, and 3,000 lives respectively. In 2008, four tropical systems hit the city of Gonaives and in 2008, 90 people died and 150 injured when a local school building collapsed due to poor construction (Mattingly, 2008). Whereas the deadliest recorded earthquake in history occurred on January 23, 1556, in Shaanxi, China killing 830,000 people (LBG, 2008), the Haiti earthquake of January, 2010, with 222,000 deaths,

300,000 people injured, 1 million homeless, 250,000 residential plus 30,000 commercial buildings destroyed, is the fifth recorded deadliest earthquake and Haiti's most catastrophic disaster (USCG, 2010).

Earthquakes are not restricted to foreign countries. Several earthquakes have struck the U.S. over the past two hundred years. In April 1906, San Francisco, California earthquake and fire claimed 3,000 American lives. In 2003, earthquake claimed two lives in central California. Earthquakes and other disasters such as tsunamis and landslides are recorded across the western states of America including Missouri, Alaska, Hawaii, Montana, Arkansas, Oregon, and Washington State (Epic Disasters, 2009). These disasters may have claimed fewer lives than the 2010 Haiti earthquake, but a country like the U.S., which is also seismically active, can face disasters of significant magnitude at anytime. Therefore, it is of utmost importance that the U.S. not only supports other disaster stricken countries, but it must learn to respond expeditiously to such crisis whether foreign or domestic. Accordingly, in the wake of the 7.0 magnitude earthquake that struck Haiti in January 2010, many nations including the United States rallied together and provided support to the earthquake-devastated nation.

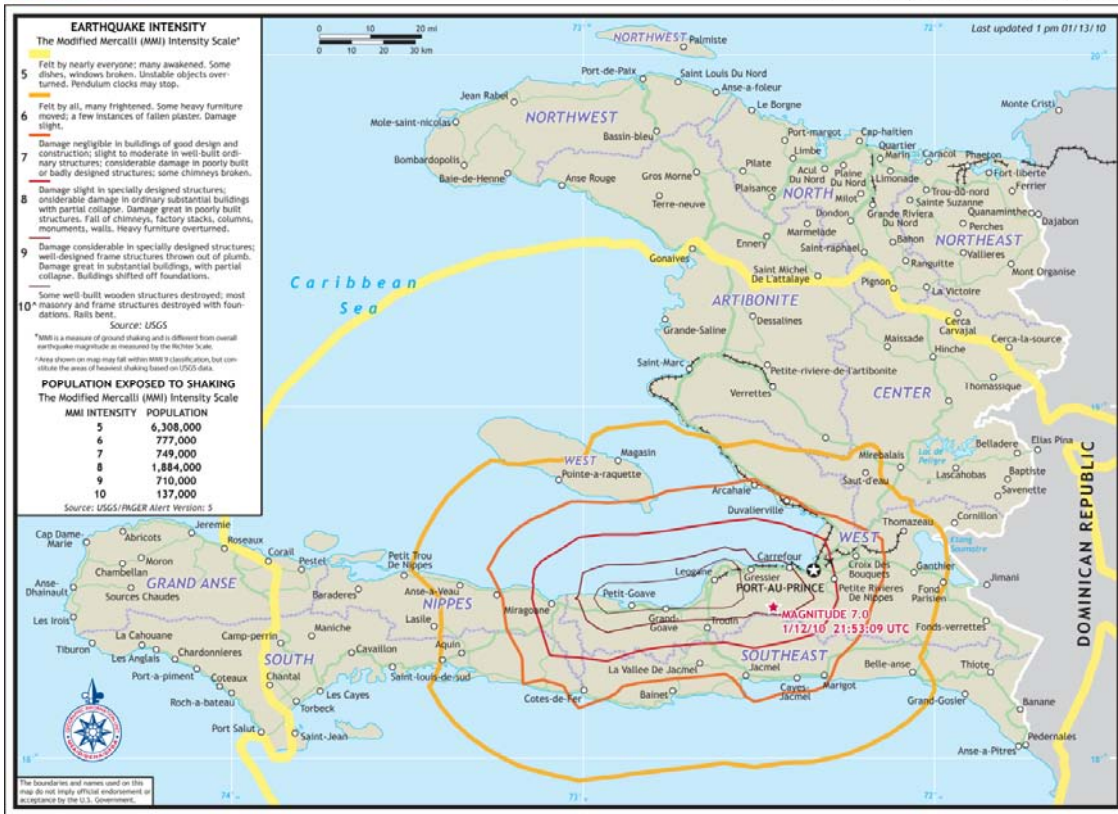


Figure 1. Haiti Earthquake Intensity Map (SOUTHCOM, 2010)

2. Partial Overview of Disasters and Disaster Response Operations in the United States Since the Twentieth Century

In the 1900s, several U.S. territories experienced multiple disasters such as the Galveston Hurricane and Storm Surge in 1900, San Francisco Earthquake in 1906, the Great Mississippi Flood of 1927, droughts of 1930–1931, and the Texas City Disaster in 1947. In all of these disasters, Non Government Organizations (NGO) and the U.S. Military provided the first, and oftentimes the only responses to assist the disaster victims. In 1889, the American Red Cross (ARC) set up one of the first national disaster response centers to provide food, water stations, shelters, and medical care to the disaster victims of the Johnstown Flood (Texas Impact.org 2006).

Prior to 1950, the United States Congress would only fund disaster relief efforts as disasters occurred because of its notion that disaster reliefs were best handled by

charitable organizations. Thus, relief efforts in the United States weighed heavily on local, state, and NGO. These piecemeal relief efforts though well intended, were ineffective and such response system continued until series of disasters in Texas, culminated by the Texas City Disaster, forced the state to reform its disaster response operations and enact legislations that created organizations to handle its disaster response efforts. These organization offered support to local authorities and coordinated the efforts between federal government and those local authorities during disasters or crisis response (TexasImpact.org, 2006).

In 1951, Texas Civil Protection Act, created by McGill, was passed to synchronize different state resources within a predetermined plan. It also formed the State Civil Defense and Disaster Relief Council, which comprised state department heads that were directly involved in disaster response operations. This Act shed more light on the need for reforming U.S. fragmented disaster response operations not only in Texas, but within all applicable federal agencies. In 1950, the U.S. Congress enacted the Federal Disaster Relief Program, which transferred the power to declare federal disasters to the president. However, the federal government role was initially limited to supplementing local and state disaster relief operations. Government roles in disaster response, has since evolved to greater levels of involvements throughout the twentieth and twenty-first centuries (Texas Impact.org 2006).

In the 1960s, the Federal Disaster Assistance Administration (FDAA), which was established within the Department of Housing and Urban Development (HUD), provided response and recovery efforts in various parts of the country—from the 1964 Earthquake in Anchorage Alaska to the 1969 Hurricane Camille. These responses were still fragmented and uncoordinated among the different agencies, particularly, the response to hurricane Camille victims were unequally distributed and resulted in dissatisfaction and complaints from minorities victims and victims of lower socio-economic classes who were underprovided for during the relief effort. These complaints eventually set the stage for the ARC to establish the first standardized guidelines for providing fair and equal assistance to all disaster victims (Texasimpact.org, 2006).

As a remedy to coordination issues, seven voluntary, non-government agencies joined forces in 1970 to form the National Voluntary Organizations Assisting Disaster (NVOAD), which provided a forum for disaster relief agencies to communicate and ensure that humanitarian assistances were not duplicated. During this period, there were over 100 federal agencies established to provide disaster, hazards, and emergency services. These government agencies were still uncoordinated especially at the local and state levels. Agencies that provided similar services worked in isolation, such that their efforts were often duplicated (Texasimpact.org, 2006).

3. Creation of the Federal Emergency Management Agency (FEMA)

To resolve issues of failed, inadequate, and ineffective responses to natural disasters, President Jimmy Carter in 1979 created the Federal Emergency Management Agency (FEMA), by merging different disaster-related agencies, to handle the emergency aspect of civil defense and to integrate disaster response and relief responsibilities within the different federal agencies involved. FEMA became a very important organization to the point where President Clinton raised it to cabinet level and appointed James Lee Witt its director in 2003 (Pbs.org, 2005). FEMA's main objective is to lead the nation in preparing, responding, and recovering from disasters—both natural and man-made. FEMA incorporates agencies like the National Flood Insurance Program, the National Fire Prevention and Control Administration, the Federal Disaster Assistance Administration, etc., and trains them in first response and emergency preparedness (Texas Impact.org, 2006). FEMA was integrated into the Department of Homeland Security (DHS) in 2003 by President Bush following the September 11, 2001 (9–11) terrorists attack on the World Trade Center in New York City and the DHS made it a part of the National Response Plan in December 2004 (Pbs.org, 2005).

4. Other Domestic Disasters

Since its inception, FEMA faced several challenges and suffered harsh criticism especially during the Cuban refugee crisis, the Three Mile Island nuclear power accident, the 1989 Prieta Loma earthquake, the 1992 Hurricane Andrew, the 9–11 terrorists attack, and more recently the 2005 Hurricane Katrina in the U.S. gulf coasts (Pbs.org, 2005).

Katrina made its first major landfall in the Gulf Coast on August 29, 2005, and a few more landfalls within days of the first (NHC, 2005). Katrina and Rita affected over 90,000 square miles in the Gulf regions, roughly the size of Great Britain and spawned approximately 43 tornadoes across several states, leaving over 1,500,000 victims in their wakes. About 1,833 of the victims lost their lives to Katrina and over 800,000 of those who survived were displaced. Katrina is by far one of the most catastrophic hurricanes in the history of United States (DHS, 2005) rivaled in intensity by Hurricane Camille of 1969, which though more severe than Katrina at landfall and followed similar track, was not as extensive as Katrina in terms of areas affected (NHC, 2006). Other hurricanes in U.S. history, which surpassed Katrina and places it in third position among the U.S. deadliest hurricanes are the hurricane that hit Galveston, Texas, in 1900, claiming over 8,000 lives, and the Lake Okeechobee, Florida, hurricane that claimed over 2,500 lives in 1928.

Together with Katrina, Hurricane Rita—which hit the gulf coast in late September 2005, one month after Katrina’s landfall—revealed several shortcomings in U.S. disaster response operation and preparedness. U.S. agencies responses to Katrina were late, uncoordinated, inadequate, and presented series of significant breakdowns and lack of leadership from federal government agencies, particularly FEMA. As a result of the poorly coordinated initial response to Katrina, which President George W. Bush termed “not acceptable” (Pbs.org, 2005), many reforms were implemented including the Post-Katrina Emergency Reform Act, which extensively restructured FEMA and afforded it a considerable authority to bridge several gaps that were revealed during the response to Hurricane Katrina. The U.S. must continue to improve its disaster response lead times and recovery processes through effective control, communication and coordination of efforts within government and non-government agencies.

B. DISASTER RESPONSE LOGISTICS

The latest monograph by Dr. Aruna Apte, titled *Humanitarian Logistics: A New Field of Research and Action*, addressed the issues and necessary actions to execute effective humanitarian logistics when disasters strike. In it she defines humanitarian

logistics as a specialized field of study critical to the overall readiness of response/relief efforts. Additionally, she discussed the management of response supply chains, addressing challenges such as demand surges, uncertainty of supply, and time-critical time windows (Apte, 2009). Much of the works cited in this study are attributed to the reference from Apte (2009) the areas of humanitarian and disaster-response logistics, as represented in the following paragraphs.

Having knowledge of disaster-response logistics is critical to developing an understanding of its performance measures and the challenges that confront it. Therefore, Disaster-response logistics is defined as the process of planning, implementing and controlling the efficient, cost-effective flow and storage of goods and materials, as well as related information, from the point of origin to the point of consumption, for the purpose of alleviating the suffering of vulnerable people (Thomas, 2003).

Disaster-response logistics covers a range of activities to include procurement, transportation, material tracking, customs relations, warehousing, and last-mile delivery (Thomas, 2003, p. 15). The researchers wanted to develop a firm understanding of the issues surrounding disaster response logistics in order to better assess the effectiveness of the DoD's response to Haiti. The scale of the network it takes to mobilize resources and personnel possessing the requisite knowledge and experience to assist distressed people affected by natural disasters and complex emergency situations is enormous. To accomplish such an objective is remarkable, given the exceptionality of the resource and logistics requirements, the austerity of the disaster locations, and the chaotic circumstances surrounding the situation.

Infrastructure such as bridges, roads, and airports is often destroyed, severely limiting or disabling transport. Local and national governments, through which humanitarian organizations must often coordinate their activities, may be severely impacted, or even defunct in the case of a conflict situation (Thomas & Kopczak, 2005). Logistics is vital to all disaster relief operations. It is what links preparedness and response, procurement and distribution, and headquarters and the field. It drives operational effectiveness and response and is the most fiscally strained component of a

relief effort. Logistics provides valuable data (e.g., cost, quantity, timelines, etc.) for both present and potential disaster-response operations and programs (Thomas, 2003).

Logistic challenges are anticipated in most disaster situations; however, there are self-inflicted challenges inherent to a disaster response and in this analysis, this team reveals those adversities and their relevance to the DoD's response to Haiti. Preparedness is a huge challenge for disaster-response organizations. A system designed to minimize risk and vulnerability enhances preparedness and perpetuates responsiveness. However, when disaster strikes, these organizations often spend much of their time putting out fires (i.e. resolving minor issues), which can lead to delays in the response effort (Tomasini & Van Wassenhove, 2009).

The Fritz Institute, the non-profit disaster relief organization introduced in Chapter I, conducted a four-year study that uncovers the most common challenges disaster-response organizations are faced with and found that disaster preparedness was severely hindered by funding shortages. It is difficult to subsidize preparedness when most disaster funding is earmarked for relief. A former head of logistics at the International Federation of Red Cross and Crescent Societies (IFRC) once stated, "It is easy to find resources to respond, it is hard to find resources to be more ready to respond" (Tomasini & Van Wassenhove, 2009). The study also determined that logisticians were largely not involved in the assessment phase of relief efforts and that critical logistic decisions were dictated by program staff, vice experienced field logisticians. For instance, a survey of the largest agencies involved in the Indonesian tsunami relief operation revealed that 42% of the assessment teams deployed did not have a logistician assigned (Thomas & Kopczak, 2005).

Furthermore, a deficient number of trained and experienced professional logisticians were found to be a common trend amongst humanitarian organizations, due to a lack of formalized training, highly tacit field knowledge, intense operational tempo, and soaring turnover rates of up to 80% annually. Of those involved in the tsunami relief, 74% of the logisticians surveyed did not have access to advanced tracking technology (Thomas & Kopczak, 2005). Such technology has revolutionized commercial and

military supply chains, while investments in such information systems are discouraged in humanitarian organizations. Also, fiscal competition has deterred the potential for partnerships and increased information sharing.

C. CONTINGENCY CONTRACTING

Planners of disaster response logistics must be conversant with a very vital aspect of disaster relief operations and perhaps one of the most important factors in addressing the challenges of disaster response logistics, that aspect is contingency contracting. Contingency contracting is a functional component within the greater scope of defense contracting (Arzu et al., 2010). A contract is a mutually binding legal relationship (Yoder, 2004) that requires the adherence to statutory laws, guidance and Federal Acquisition Requirements policies and procedures. Contracting for disaster response requirements and logistics can be very challenging and time consuming except adequate planning and preparations are made prior to contingencies.

Although, the Federal Acquisition Regulation (FAR) authorizes contracting officers to streamline contracting efforts and sometimes waive the Competition In Contracting Act (CICA), 10 U.S.C. 2304 and 41 U.S.C. 253, vaguely defined requirements and damages to infrastructures to support delivery of those requirements make expedited contracting and logistics support very difficult and oftentimes impossible, during the beginning phase of contingencies. CICA mandates contracting officers to pursue full and open competition (FAR 6.101) to the maximum extent practicable in soliciting offers and awarding government contracts. Yoder (2010) recommends precontingency preparations during Phase Zero of the contingency planning life cycle. Phase Zero in DoD contingency includes the events shaping, grooming and planning initiatives phase, prior to actual contingencies. There is usually no time limitation in Phase Zero, it merges into Phase One at the onset of contingencies.

1. What Is a Contingency?

“A contingency is an event that requires the deployment of military forces in response to natural disasters, terrorist or subversive activities, collapse of law and order, political instability, or other military operations” (Yoder, 2004). The Federal Acquisition

Regulations (FAR) defines contingency operation (10 U.S.C. 101(a)(13)) as a military operation that— (1) Is designated by the Secretary of Defense as an operation in which members of the armed forces are or may become involved in military actions, operations, or hostilities against an enemy of the United States or against an opposing military force; or (2) Results in the call or order to, or retention on, active duty of members of the uniformed services under section 688, 12301(a), 12302, 12304, 12305, or 12406 of 10 U.S.C., Chapter 15 of 10 U.S.C., or any other provision of law during a war or during a contingency or national emergency declared by the President or Congress (FAR 2.101). Contingencies can be declared or undeclared. A declared contingency is an operation designated by the Secretary of Defense (SECDEF) when members of the U.S. military under Title 10 USC (a)(13) are expected to engage an enemy of the United States with military actions. A contingency operation may also be declared by the president or congress when members of the uniformed services are called to active services in accordance with Title 10 USC or any provision of law during a declared war or national emergencies (Yoder, 2004).

Contingencies span a vast range of military operations (ROMO) such as: major theater wars, small scale contingencies, domestic and international disaster and/or emergency relief, peace keeping, nation building, stability operations, extraction and/or evacuation operations, and other humanitarian operations. DoD planners must consider the type of contingency environment they are involved with in order to adequately meet the logistics requirements (Yoder, 2010). In Haiti, the environment was immature since there was very little supporting infrastructure such as adequate financial systems for supporting complex transactions, pliable roads and good transportation network, and business capability.

2. The Phases of Contingency Operation

There are presently four phases of contingency planning and operations (Phases one through four). However, contingency planning should not begin when there is an actual contingency or emergency situation. Yoder recommends that the four phases of major operations adapted from the joint publication doctrine should be expanded to

include a Phase Zero as the planning phase for contingencies prior to the actual occurrences of disasters (Yoder, 2010). Since Phase Zero is has not been integrated into the contingency planning, it will be addressed (last) after the original four phases.

- i **Phase One:** Mobilization and initial deployment (first 30–45 days): Phase one is implemented when there is a warning order or when there is an actual contingency event. Once Phase One is deployed, the main focus becomes basic life support and security provisions above all else. Food and water, utilities, transportation, fuel, sanitation, interpreters and guides are other major requirements during this phase. In Haiti, the requirements hierarchy was similar: Medical care, food and water, shelter, etc.
- ii **Phase Two:** Build up (day 45 and thereafter): continued effort to prioritized basic life support and security provisions, construction and standing up infrastructures, habitability, quality of life, establishing solid and reliable vendor base, and ensuring contracting control and administration.
- iii **Phase Three:** Sustainment (past build-up until termination phase): basic life support and security remain top priorities, executing contracts like: Indefinite Delivery, Multiple Awards, and Blanket contracts. These should be in place during Phase Zero. Hence, it is imperative that contracting personnel are incorporated into OPLANs, so that they can provide contracting capabilities to improve and refine internal controls, increase competition in vendor base, establish a “pull” contracting system for items not in theater, create dormant contracts for contingent and “extra ordinary” events, and plan for awarding contracts for the termination of operations at the end of the contingency.
- iv **Phase Four:** Termination and redeployment (may take a long time to achieve—sometimes longer than the operation itself). Basic life support and security provisions remain as top priorities throughout the four phases, but during this phase, the main highlights shift to items like packing and freight services, transportation, contracts termination, contract closeouts, and securing audits and accountability prior to exit.
- v **Phase Zero:** This phase is addressed last because it is not currently part of the contingency lifecycle. Nevertheless, this phase should be where DoD prepares and plans for its contingency operations—prior to Phase One. Phase Zero should facilitate DoD contingency events shaping, grooming and planning initiatives. There is no time limitation in Phase Zero. In his Phase-Zero Report Draft (Phase Zero), Yoder considers synchronization of personnel, platforms, and protocols for integrated planning and execution of contracting functions in OPLANs and OPORDs with the

Unified Combatant Commander's intent and effect, essential to the effective implementation of Phase Zero concept (Yoder, 2010).

The Phase Zero concept is not a completely new concept. According to Poree, et al., the Commanding General of Joint Contracting Command (JCC) in Iraq/ Afghanistan (JCC-I/A) aligned tactical contracting efforts with strategic objectives of the Combatant Commander's Campaign Plan (CCCP) through integration of Contingency Contracting Officers (CCO) into war fighters' Operational Plan (OPLAN) (Poree et al, 2008). The Yoder Phase Zero concepts utilize existing platforms and protocols the basis for the concept development. Yoder analyzed critical contracting capabilities that are lacking at the strategic level of planning; therefore, he identified/defined the caliber of personnel that should be integrated at the Phase Zero phase. Selected personnel should be a well-seasoned contracting officer with the right credentials, knowledge, experience, and education, for whom Yoder coined the term, Integrated Planner and Executor (IPE). According to Yoder, the IPE would become valuable in assigning specific tasks for planning development and establishing pre-awarded contracts in Phase Zero (Yoder, 2010).

According to Richard Goodale Junior's article, *Planning for War: A System*, "planning must be visionary, quick, flexible, and adaptive" (1994). Military planners must be adaptive to the Phase Zero concept and understand the planning system designs in order to improve disaster response processes. The Joint Operation Planning and Execution System (JOPES) portrays peacetime as the best time for structuring and planning in addition to developing deliberate plan (before crisis) (Joint Publication 5.0), however, DoD is not fully integrating contracting and logistics experts at the Phase Zero level of planning. The DoD Joint Publication (Joint Pub) 4-10 defines successful operational contract support as "the ability to orchestrate and synchronize the provision of integrated contract support and management of contractor personnel providing that support." So far, provision for contracting support experts has yet to be integrated into the early planning phases of operations.

Synchronizing contracted support requirements, contracting planning and the execution of operational contract support oversight are key functions of the supported

Unified Combatant Commander (CCDR) and the respective Joint Forces Commanders (JFC). In Haiti, the JTF responsible was assigned to OUR under the CCDR, SOUTHCOM as reviewed below.

D. OVERVIEW OF DOD SOUTHERN COMMAND (SOUTHCOM)

As stated in Chapter I, SOUTHCOM was designated as the DoD combatant command tasked with the overall planning and coordination of Operation Unified Response (OUR). Christened SOUTHCOM in 1963 by the Kennedy administration (to reflect its geographic interests), SOUTHCOM, is the direct descendant of the U.S. military units dispatched to Panama in the early 1920s. It is also a World War II (WWII) prototype of unified military organization, U.S. Caribbean Defense Command, formed by the Roosevelt administration in the 1940's. During the last century, SOUTHCOM's mission shifted from defending the Panama Canal and its surrounding area, contingency planning for the cold war activities and administration of foreign military assistance program in Central and South America to counter-drug operations and humanitarian missions. In September 1997, SOUTHCOM relocated from Panama to Miami, Florida (Coleman, 2009), and once again its mission shifted to "providing contingency planning, operations, and security cooperation for Central and South America, the Caribbean (except U.S. commonwealths, territories, and possessions), Cuba; as well as for the force protection of U.S. military resources at these locations. SOUTHCOM is also tasked with ensuring the defense of the Panama Canal and canal area" (Coleman, 2009).

1. Scope of Responsibilities

The scope of SOUTHCOM's responsibilities today may seem broader than its twentieth-century mission; nevertheless, its current personnel strength of about 1,200 military and civilian employees, representing the Army, Navy, Air Force, Marine Corps, Coast Guard, and several federal agencies (SOUTHCOM, 2010), is far below its manning peak of 130,000 uniformed personnel during WWII (Coleman, 2009). In spite of its drastically reduced personnel strength, SOUTHCOM is responsible for 31 countries and 10 territories, representing about one-sixth of the landmass of the world assigned to regional unified commands (SOUTHCOM, 2010). These regions include:

- a. The land mass of Latin America south of Mexico
- b. The waters adjacent to Central and South America
- c. The Caribbean Sea
- d. A portion of the Atlantic Ocean

SOUTHCOM is the smallest of all unified command staff, but the dimensions and diversity of its areas of responsibility from north to south spans an approximate distance of 7,000 miles, and from east to west more than 3,000 miles. To bring the scope of these landmasses to focus, Brazil is larger than the continental United States while Peru is three times the size of California—these are just two of the countries SOUTHCOM is responsible for (Global Security.org, 2000–2010). During OUR, personnel requirement and responsibility/assignment were critical to the effectiveness of the response effort (Clifton, 2010).

2. Operation Unified Response (OUR)

As previously defined, OUR is SOUTHCOM's collaborative humanitarian "military" response to the Haiti disaster, which comprised personnel from all branches of U.S. military service and commanded by SOUTHCOM. The mission of OUR was humanitarian assistance (HA) and disaster relief (DR) operation in support of the U.S. government overall response organization, USAID. OUR provided localized security, targeted distribution of aid, restoration of basic human services, medical support, and critical engineering services to alleviate human sufferings and facilitate recovery and reconstruction of the devastated nation of Haiti. To effectively perform its mission, OUR worked very closely with USAID, which was a part of the international and NGO/PVO relief effort, and across its own services lines (Army, Air Force, Navy, Coast Guard), in order to forge interagency alliance. SOUTHCOM's themes for the Haiti's HA/DR were Teamwork, Unity of Effort, and Enabling Partners (U.S. Army Logistics, 2010).

E. SUMMARY

The literature reviewed in Chapter II was paramount for this team to develop an understanding of the effective and ineffective actions of a disaster response operation. This helped shape the research team's opinion of the coordinated efforts between the DoD and lead agencies in a disaster response. The phases of joint operational planning are critical when organizing various capabilities to achieve a common objective. As such, the study of these phases has proven to be essential to this team's analysis of the effectiveness of the logistics and contracting efforts of DoD's response in the first 100 hours of the 2010 Haitian disaster. This coupled with a knowledge base in Disaster-Response Logistics and Contingency Contracting helped this team collect, analyze, and determine the findings of the information presented in the following chapters.

Chapter III will disclose the responses to the interview questions presented in Chapter I. An analysis of this feedback will then be provided to answer the primary research questions. The analysis delineated in Chapter III will drive the determinations and findings discussed in Chapter IV.

III. RESEARCH QUESTIONS ANALYSIS

In Chapter I, the researchers developed interview questions to enable them to answer the research questions for this project. These questions were posed to participating personnel assigned to DoD organizations, who were in one way or another involved in the disaster response operation, Operation Unified response (OUR) in Haiti. In this chapter, the researchers will restate the interview questions and use the responses provided by the DoD personnel interviewed to analyze the information gathered, in order to determine DoD's response effectiveness during the first 100 hours of OUR, as will be discussed in Chapter IV. Additionally, the researchers utilized information gathered from sources like online articles and academic works on contingency contracting and disaster response logistics to further evaluate DoD's effectiveness during those critical 100 hours.

The researchers believe it is worth mentioning that a majority of the personnel interviewed were personnel assigned to SOUTHCOM, which was the lead DoD organization for OUR. Other DoD organizations like FISC, NOLSC, and ACC, which were subordinate commands to SOUTHCOM during OUR also provided valuable information for this research through materials provided by some members of their staff and materials posted on their websites. DoD personnel attached to the above organizations who participated in this research provided first hand information that was instrumental to the successful completion of this research. However, in gathering information from the interviewees, the researchers understood that some personnel may be elusive in providing answers and that some of the answers are subjective. Therefore, they supplemented shortfalls in interviewees responses with data collected from the above-named sources.

A. PRESENTATION OF INFORMATION AND ANALYSIS

There were no mathematical/statistical data collected as the information was mainly written documents, personnel views and observations, and expert studies. Thus, the presentation herein referred to is the restatement of the interview questions while the analysis will entail using the responses from personnel interviewed to answer the

questions the questions. Where responses are insufficient to analyze fully the interview and/or research questions, the researchers would supplement the deficiencies with information for sources other than the interviewees.

In citing the SOUTHCOM personnel interviewed, the researchers devised a method to list them by numbers, such as: SOUTHCOM-1 (Contracting), SOUTHCOM-2 (Fuels), SOUTHCOM-3 (Logistics), for the ease of identification. Information collected directly from SOUTHCOM's website is cited as: SOUTHCOM. The interview questions and analysis are outlined below. For the purpose of this analysis, interview questions are denoted by the letters IQ, while the alphabetical letters starting from "a" will be used to denote the successive sub-questions to the IQ.

B. RESEARCH QUESTIONS

1. Primary Research Question

How Effective Was DoD's Contracting and Logistics Support To Haiti Within the First 100 Hours of the Disaster?

IQ- 1: What were the immediate basic and logistics requirements?

The immediate basic requirements mirrored the essentials typical of Phase One requirements in a contingency operation (e.g., medical services, food, water, shelter, security, etc.), as stated in the phases of contingency operation outlined in Chapter II of this analysis (Yoder, 2004). Heavy equipment for construction, barges for port services, transportation vehicles, fuel for vehicles, equipment and aircrafts, and mobile phones for communications were some of the vital immediate logistics requirements during the first 100 hours of OUR (Clifton, 2010).

IQ-1a: How were the requirements determined?

Initial requirements were determined by USAID, which was the lead U.S. agency in the response effort. However, specific quantities were unknown, because the number of casualties and afflicted people were constantly changed during the first 100 hours of the operation. Besides the constantly changing counts, requirements determination was

also impacted by the lack of clarity in the supporting and supported command roles. SOUTHCOM/USAID initially thought they were supporting NATO, but NATO was unclear which organization it supported or if it was indeed the supported organization. So there was confusion as to who was the lead organization, which further extended the lead times for getting the “right” requirements to the right place at the right time (SOUTHCOM-3, 2010).

IQ-1b: Where these requirements met in a timely fashion?

No, the requirements did not get to the disaster victims in a timely fashion. Once in country, the logistics necessary for timely delivery of requirements were not in place until after the first 100 hours of the operation (Clifton, 2010). Much of the requirements sent to Haiti were delayed in transportation routes such as sea points of debarkation/entry (SPOD/SPOE) and/or air points of debarkation/entry (APOD/APOE) in Haiti awaiting further transport in country.

IQ- 2: What were relief locations available to DoD during OUR?

The military had supply locations set up for military logistics support in different countries as well as on naval vessels. Although these supply nodes provided supplies like tents and personnel (most of which came out of GITMO) for the Haiti relief operation, they were not standard SOUTHCOM supply locations and were not outfitted to support SOUTHCOM’s mission of directing military forces to help distressed nations in the aftermath of a disaster (Clifton, 2010).

IQ-2a: Were there alternate supply sources where components closest to contingency locations (domestic/international) could respond quickly?

The military indefinite delivery contracts and husbanding contracts were quick sources of supplies and services. Supplies were also taken off naval ships, U.S. embassy attaches, and other assets not predesignated or specifically slated to respond to contingencies within/close to the SOUTHCOM Area of Operation (AOR). Other sources of supplies were countries like the Dominican Republic, Columbia, as well as foreign military, government, institutions and civilian volunteer entities from other countries. The Dominican Republic was instrumental in getting supplies and services to Haiti

mainly because it shares its eastern boundary with Haiti and there is no water barrier between them. Dominican Republic also has a good economy and was easily accessible.

2. Secondary Research Question

How Did Planners and Coordinators of OUR Use Contracting and Logistics to Overcome the Devastation That Challenged Their Ability to Provide Prompt Relief to Those in Haiti?

IQ- 3: How were contracting and logistics efforts coordinated?

Within the first 100 hours of OUR and throughout much of the time that followed, the coordination of efforts between DoD and USAID was a day-to-day endeavor. A clear distinction of responsibilities between the two and other businesses and agencies did not exist initially. Therefore, even though the need for basic requirements such as water, food, shelters, heavy equipment and fuel were identified almost immediately, there was no guidance as to which agency would meet the requirements (SOUTHCOM, 2010).

IQ- 3a: Was there effective command and control?

Establishing a fully functional command center in Haiti was delayed. In a joint environment, it is critical that a fully functional temporary command post is established in the forward operating area within 96 hours of an operation (SOUTHCOM, 2010). The Deployable Joint Command and Control (DJC2) system, embedded with an early entry configuration, enables a commander to rapidly deploy such a command. Although the DJC2 arrived in Haiti within 48 hours of OUR, it was not fully functional until 10 days into OUR, due largely in part to the heavy debris and harsh environmental conditions of Haiti (SOUTHCOM, 2010). The delay adversely impacted the synchronization of efforts between planners, operators, and subordinate commands during the critical phase of the operation.

IQ-3b: At what point were tasks and responsibilities assigned?

SOUTHCOM assigned tasks during the first 100 hours to its service components and published operations/task directives. SOUTHCOM personnel also issued Fragmentary Orders (FRAGO) to modify or change portions of original operations to suit required tasks assigned to service components (SOUTHCOM, 2010).

IQ-3c: Was prior training conducted to prepare first responder for their assigned responsibilities?

SOUTHCOM champions Emergency Operation Centers, which is a multinational disaster preparedness effort comprising disaster preparedness exercises, seminars, and conferences for increased collaboration with partner nations to improve their collective abilities to respond effectively and expeditiously to disasters. SOUTHCOM also trains U.S. military personnel to effectively response to victims of storms, earthquakes, and other natural disasters (SOUTHCOM, 2010).

IQ-3d: Were contracting and logistics personnel integrated into operational planning phase (OPLAN)?

SOUTHCOM logisticians were involved in the OPLAN phase of disaster response but the need to involve contracting personnel at the OPLAN level was not apparent, especially since local contracting effort is considered a USAID activity during contingencies (Clifton, 2010). DoD contracting support was conducted mainly in CONUS and contracting requirement was not integrated into the OPLAN as a critical element for immediate response operation. NAVSOUTH, the navy component of SOUTHCOM, had a very small logistics shop but it had no contracting officers, so in this case, there was no contracting officer to integrate into the OPLAN. NAVSOUTH had no apparent need for contracting during the initial phase of OUR and if it did, it would request contracting support from other Navy commands (SOUTHCOM-1, 2010).

Notwithstanding the appearance that contracting personnel are not critical to OPLAN for contingency operations, it is imperative that contracting personnel be identified and assigned, not only at the onset of disaster relief operations, but prior, as this will guarantee prompt and adequate contracting support during contingency operations.

Having contracting personnel pre-assigned and involved in Phase Zero would facilitate specific effective plan development and establishment of pre-awarded contracts such as IDIQs and MAC, specifically tailored to the different types of disasters, different geographic locations, and different population needs (Yoder, 2010).

Given that contracting at the local level was not SOUTHCOM's primary responsibility in Haiti, it was unable to immediately contract for support equipments, debris clearing, logistics, etc., without support from other military components. In view of the grim circumstances in Haiti, local contractors could only provide limited amount of requirements. The increased contract award timelines, lack of pre-awarded (disaster response) contracts and insufficient prepositioning of response requirements, added to the delay in providing expeditious contracting and logistics support.

3. Tertiary Research Questions

What Contracting Support and Processes Were Utilized During OUR and Was There Sufficient Contracts Oversight and Administration Given the Extreme Circumstances in Haiti?

IQ-4: What were the contracting support requirements?

According to U.S. Navy Captain Vincent P. Clifton, who was on the ground in Haiti, there was theoretically no requirements for contracting support during the first 100 hours of OUR, DoD contracting support became effective afterwards (Clifton, 2010). Since combatant commanders usually do not have procurement authority, there was a delay in designating a lead contracting support component during the response phase of OUR. Thus, even though the U.S. Army Contracting Officer from the Army 410 Brigade, was on ground within the first 48 hours (SOUTHCOM-1, 2010). This delay increased procurement lead times, procurement costs, and shifted several requirements delivery schedules.

IQ-4a: How were these requirements determined?

U.S. Army Lieutenant General, P.K. Keen, the commanding general of the Joint Task Force-Haiti (JTF-H), who is also the Deputy Commander of SOUTHCOM, determined that contracting support was needed and subsequently, the Joint Operation Contract Support Planner (JOCSP) was initiated for contracting support in Haiti. The Army 87th Airborne, with approximately 20 personnel, deployed with field agents to conduct micro purchases within the first seven days. Army Lieutenant Colonel, Doug Lowery, was designated head of contracting activity in Haiti (SOUTHCOM-1, 2010).

IQ-4b: Were there pre-awarded contracts in place prior to the disaster?

DoD pre-awarded contracts that were in place during OUR were IDIQ type contracts such as: Logistics Civil Augmentation Program (LOGCAP), Navy's Global Contingency Logistics Contract (GCLS), Global Contingency Construction (GCCC)/Navy Facility Engineering Command (NAVFAC), Air Force *Contract Augmentation Program* (AFCAP), and Husbanding Contracts. Although these contracts aided quick response, most of the contracts were not reviewed prior to the disaster to ensure the contract covered the scope of work required. Most of these contracts became useful later in the operation, during reconstruction efforts but not in the first 100 hours of OUR. Also, executing the pre-existing contracts was very expensive (SOUTHCOM-1, 2010).

IQ-4C: What were the contract types?

Firm Fixed Price (FFP) contracts through commercial sources was the main type of contract used during the response phase of OUR. As outlined in the Federal Acquisition Regulation (FAR) Part 12.207 (a) contract type, contracting agencies shall use firm-fixed-price contracts ... for the acquisition of commercial items, except it is necessary for them to use Time-and-Material and Labor-hour contracts. FFP contracts afford the government fewer risks than other forms of contracts; FFP is also the prescribed contract type for procuring commercial products. Using FFP in Haiti was in accordance with FAR.

IQ-4d: Was there adequate competition in awarding the contracts?

FAR Part 6.101 requires that contracting officers promote and provide for full and open competition in soliciting offers and awarding government contracts, except when limitations described in FAR Subparts 6.2 and 6.3 apply. In Haiti, there was little or no competition because most of the local contractors were displaced and/or disoriented by the earthquake and there were very few qualified contractors available and willing to compete for, and provide supplies and services. Where competition existed, it was more often than not “teaming” between one or two vendors who more than likely worked as one team (SOUTHCOM-1, 2010). In a different environment and under normal circumstances, such “teaming” by contractors would be classified as “collusion” (FAR Part 3. 3), and will be grounds to disqualify the contractors involved. However, in Haiti, this was one of the restrictions that could be bypassed based on the directives in FAR 6.302, which permits contracting without full and open competition, in order to get resources to the customers in a timely manner.

IQ-4e: What contracting methods and procedures were utilized?

The contracting methods and procedures used in Haiti were mainly commercial contracts that included Simplified Acquisition Procedure (SAP), Indefinite Delivery, Indefinite Quantity (IDIQ), Blanket Purchase Agreements (BPA) and Letter Contracts (SOUTHCOM-1, 2010). FAR 13.003 (a) authorizes contracting agencies to use SAP to the maximum extent practicable for all purchases of supplies or services not exceeding the simplified acquisition threshold. The SAP threshold for contingency operations was capped at \$12 Million. SAP requires the use of government purchase card (FAR 13.001), however, local contractors in Haiti did not have the capability to accept U.S. government purchase cards, therefore, most of the purchases made within the first 100 hours were paid for with cash (SOUTHCOM-1, 2010). Using cash as a means of payment made it difficult for the DoD contracting personnel in Haiti to effectively follow SAP procedures to its full extent (FAR 13) and there is less oversight when cash is used as a form of payment.

The IDIQ contracts can be used to acquire supplies and/or services when the exact times or exact quantities of future deliveries are unknown at the time of contract award (FAR Part 16.501). In Haiti, the exact type of items, quantities, and delivery requirements were unknown during the first 100 hours, so immediate utilization of IDIQ contracts was not possible. FAR 13.303-1 describes BPA as a simplified method of filling anticipated repetitive needs for supplies or services by establishing “charge accounts” with qualified sources of supply, thus, the use of BPA procedure and issuing of IDIQ contracts prevented the writing of numerous purchase orders, which could be challenging during crisis situations such as the Haiti earthquake.

IQ-4f: How were contracts negotiated and awarded?

During the first 100 hours, the main form of negotiation was “verbal.” There was neither enough time, nor the infrastructure to conduct proper solicitations, negotiations, and/or contract awards. The Contracting officer discussed the contracts with vendors, collected resource information from each vendor, assessed vendor’s ability to meet government requirements, and awarded the contracts to the most qualified contractor based on verbal agreements and without the usual formulized contracting evaluation and source selection practices (SOUTHCOM-1, 2010).

Verbal solicitations are not prohibited by law or regulation; however, in conducting oral solicitations, contracting officers are required to establish and maintain records of oral price quotations in order to show with clarity, the propriety of placing the order at the price paid with the supplier concerned. In Haiti, maintaining such documentation was challenging as contracting efforts were driven by urgency of needs and constantly changing requirements determinations. In most cases, the contracting officer may only have to show the names of the suppliers contacted and the prices and other terms and conditions quoted by each supplier (FAR Part 13.106-3 (b) (1)).

IQ-5: Was there adequate contract administration and contracts oversight?

Tracking, coordination, and control effort was assigned to SOUTHCOM but SOUTHCOM did not immediately have good visibility of what was being purchased

within the first 100 hours- neither could it accurately assess its overall operation as things were happening too quickly (SOUTHCOM-1, 2010). Subsequently, the Army contracting component published the JAB to aid in requirements determination and to identify the immediate needs of DoD personnel in Haiti.

The Army Expeditionary Contracting Command (ECC) also used the Synchronized Pre-deployment and Operational Tracker (SPOT) to provide contractor oversight during the Haiti relief effort. SPOT is the Joint Enterprise contractor management and accountability system that gives government representatives oversight of contractors during contingencies. It is a central source of contingency contractor information and contractors are required to maintain accountability by name within SPOT (BTA, 2010). In Haiti, SPOT was set up to track contractors' movements and activities. Contractors were required to provide input to SPOT within five days of contract award. However, implementing SPOT in Haiti was very difficult due to the chaos created by the disaster. Contractors and some DoD personnel also lacked training and SPOT guidelines were not easy to follow. Additionally, the number of contractors to move was substantially high. Contractors showed up without notice and very quickly, there were more contractors than DoD officials, which made monitoring their movements and/or providing adequate oversight for the was a daunting task for the contracting personnel (SOUTHCOM-1, 2010).

Overall, there were contract administration, management, and oversight processes as well as Quality Assurance in place during the Haiti disaster response operation, but it was not until the later phases of the operation that they were fully established. Defense Contract Management Agency (DCMA) and Defense Contract Audit Agency (DCAA) representatives were somewhat involved in SOUTHCOM contingency planning phase because they only attended the Contract Community Board (CCB) daily meetings to provide counseling and guidance. Their expertise was not utilized for Haiti's contracts administration because there was supposedly no need for such oversight. DCAA effort was also not required for pricing (SOUTHCOM-1, 2010).

4. Additional Interview Question #1

What Were the Contracting and Logistics Challenges?

IQ-6: What were the contracting and logistics challenges?

During the response phase, DoD personnel had to overcome several challenges, most of which are common in every disaster response effort. Logistics and contracting challenges delayed the delivery of supplies and services to disaster victims. Command and Control (C2), communication, proper identification of supporting and supported command structures and manpower constraints were some common logistics challenges. The lack of C2 and the difficulty involved in indentifying who was being supported and by whom, led to ineffective coordination between relief personnel and delays in tasks assignments and getting requirements to disaster victims. SOUTHCOM being the smallest of all COCOMs did not have enough manpower to provide the amount of assistance require. Therefore, it had to recruit additional personnel from all the services to augment its manning shortfalls.

IQ-6a: What was the impact of “information gathering” personnel on OUR?

During the first one hundred hours, DoD personnel, private citizens and interest groups flooded Haiti in search of first-hand information and lessons learned. The presence of these “information gathering” personnel was more distractive than supportive of the response operation. Their presence shadowed the urgency to provide much needed aid to disaster victims, which was paramount during the initial response phase, and as such personnel attempting to gather information for lessons learned were counterproductive. Also, personnel outside of the immediate operational chain of command were using information from media groups like Cable News Network (CNN) and/or relying on outdated briefs to determine requirements. Since the situation and requirements changed daily and in some cases, hourly, such inaccurate information created an overwhelming influx of the “wrong” supplies due to misrepresentations of actual requirements needed in Haiti (Clifton, 2010).

IQ-6b: What were the transportation challenges?

The flow of goods and services was throughout the supply chain was constrained in the last mile of transport. Damage and debris caused by the earthquake rendered some of the roads impassable. Some roads had developmental challenges prior to the earthquake and they further complicated transportation issues. The few roads that were passable were occupied by displaced Haitians living on the streets amidst debris, preventing trucks carrying relief and food supplies from reaching distribution sites (USAID, 2010). Haiti's major seaports were damaged and its other port was under construction and neither was functional nor usable for port operations. U.S.' ships and ships belonging to other countries flooded the damaged ports, making offload of goods and services more challenging. Also, Haiti's only airstrip was damaged and had to be revamped for limited use. Unlike the issues with limited transportation routes, air traffic was everything but limited. Prior to the earthquake, the typical landing and recovery operation at the Haiti airstrip was less than 20 airplanes daily, during OUR, over 100 airplanes landed, or attempted to land in Haiti's damaged and inadequate airport, daily. This caused delays and/or cancellations of several flights and many of the relief personnel and supplies inbound Haiti had to wait several days for transportation (Clifton, 2010).

IQ-6c: What Challenges did alternate transportation routes present?

Alternate transportation routes were created to expedite movement of supplies. However, these routes were often unsecure, resulting in the pilferage of many items. Corrupt Customs and some other Haiti's government officials seeking kickbacks added to the pilferage and break in accountability of supply chains. In extreme cases, some of Haiti's Majors and other government officials shut down roads and distribution points if bribes and kickbacks were not paid to them (SOUTHCOM-3, 2010).

The route from Santo Domingo to Port-au-Prince was reportedly passable, though bottlenecks due to relief traffic were creating delays of up to one hour at the border crossing point; also disorganized relief convoys caused further delays. The U.N. Office for Coordination of Humanitarian Affairs (OCHA) recently reported a transit time of up to 18 hours. Thus U.N. Logistics Cluster requested that the Government of the Dominican

Republic (GoDR) establish a humanitarian hub in Barahona as an alternate for channeling humanitarian relief cargo from Santo Domingo to Haiti (USAID, 2010).

IQ-6d: How did fuel shortages impact transportation?

Fuel shortage and the downed Haiti refinery added to transportation challenges. Getting fuel to Haiti to supply equipment and transportation vehicles was logistically challenging as well. Haiti refinery eventually opened and became operational; however, it was undermanned and its personnel worked 24 hours shifts with one-hour turnover. Refinery personnel, including its directors also used the office spaces for storage and shelter.

IQ-6e: What challenges did pull system operative in Haiti create?

Operating push systems, which is supplying with little regard for demand data, in Haiti rather than the more effective pull system, which is supplying with a greater regard for demand data, essentially equated to providing the “wrong supplies” at the right time. Many items showed up in Haiti that were neither requested nor properly marked for delivery and distribution. Relief personnel had to move these items from their respective ports of entry, label them and provide storage for them. There were so much (wrong) supplies arriving in Haiti that relief personnel ran out of storage spaces. Supplies piled on the ground, creating a different kind of debris that exacerbated the relief operation. Clearing the debris caused by the earthquake was tedious enough without having to dispose of unwanted supplies. Response personnel and DoD supply expeditors must be properly trained so they can effectively determine the right requirements for the type of disaster and population they respond to. Prior planning is a key to success during disaster relief.

Early planning will reveal that every disaster does not require the same type of response, therefore the type of disaster and the areas affected should determine early prior to pushing supplies to a disaster location. For instance, there was strong push for more water to be sent to Haiti, not considering that every part of Haiti was not affected by the earthquake and it did not take very long to get the local water supply running. People continued to push water to Haiti in great quantities that there was so much water in Haiti,

some Haitians were washing their cars with OUR bottled water- making it hard for the average mom-and-pop shops could not sell their water (Clifton, 2010).

The media was one of the culprits for this overage in supply, there were constant advertisements in the media for urgent requirements and supply of water to Haitians, and many relief organizations responded accordingly. It is imperative that response personnel are properly trained on disaster response processes to plan effectively for logistics and supplies requirements prior to and during disaster relief operations. Excess water supplied clogged the logistics pipelines to the extent that finding enough storage space for bottled water became a challenge (Clifton, 2010).

Haiti's close proximity to South America, other Caribbean Islands, and the U.S. was a clear indication that a "pull" supply chain management system would be effective. However, many organizations and private entities failed to listen to personnel on ground and they continued the push of unnecessary requirements to Haiti. Unrequested supplies clogged distribution channels and prevented the right requirements from reaching the disaster victims. Pushing supplies to Haiti without request or without the consult of personnel on the ground was equally challenging as supplies began to land in Haiti in numbers disproportional to the number of personnel involved in the relief effort and the amount of staging areas available for the supplies was inadequate.

IQ-6f: What was the impact of lack of visibility on OUR?

Getting the right supplies to Haiti was crucial to a successful relief operation. One factor that contributed to inadequate requirements determination was the lack of visibility on the supplies on ground, the supplies in the supply pipelines, and the supplies that needed to be requisitioned. There was no central information hub to provide a complete picture of what supplies and service capabilities were already in theater or in the supply pipeline and what was needed. When SOUTHCOM finally conducted its assessment, it realized that there were too many supplies inbound to Haiti and it had to stop some of the shipments since they were not the right supplies and there was no storage for them- a move that in itself created an additional task. Additionally, poorly

managed supply chains and the lack of visibility of the supplies provided by other agencies like the World Food Program (WFP) exacerbated the visibility challenges (SOUTHCOM-3, 2010).

IQ-6g: How did donations of wrong items impact the response operation?

Well-intentioned civilians and other government and foreign entities donated huge quantities of items like bags of rice, couch, plates, pans, coats, etc., to the disaster victims. In spite of the good intentions behind such donations, these items were not suitable for meeting the immediate needs of the disaster victims; rather, they took up storage space and created more work for the relief personnel. The victims needed items like premade meals, not uncooked rice. Not knowing what donations were coming in through donations adversely affected effective requirements determination. The process for transporting and delivering donated items was also not clearly understood. Relief personnel created their own transportation processes, which further complicated distribution effort.

IQ-6h: What were the challenges of excessive number of relief personnel?

The endless arrival of uninvited, but good-intentioned, relief personnel was a challenge closely linked with ineffective requirements determination. These personnel usually showed up in Haiti without any support mechanism in place, so they, like the disaster victims required security, supplies and services like the disaster victims. With their ever-increasing presence, DoD and USAID had to continually reassess and redefine the type and amount of support needed for the response operation. This also made establishing a pull flow for logistics support extremely difficult (Clifton, 2010).

IQ-6i: What is the impact of distribution challenges to the timely response effort?

Effective determining of distribution nodes, accurate count of the population at each node and knowing how the amount of supplies required at the nodes are critical to providing timely relief. USAID had warehouses located worldwide and the proximity of Haiti to SOUTHCOM and other supply sources like Dominican Republic made getting

supplies to Haiti a lot quicker than if Haiti was farther away from the U.S. However, distributing the supplies and providing adequate security posed serious challenges to response teams. Transportation issues as detailed above and other issues like improper labeled/unlabeled items made distribution effort even more time consuming.

Poor identification of rations also slowed the distribution process. For instance, there were two major types of rations delivered to Haiti: USAID Humanitarian Assistance Disaster Meal (HADDM) and the military Meals Ready to Eat (MRE). The HADDM had 1,200 calories, issued one HDM per day, per Haitian while the MRE had 2000 calories per meal, issued three times a day per service member. It was critical to properly label the meals so that there were no mix-ups in distribution. When distributing items donated by civilian entities, SOUTHCOM had to be very careful not to mix them up with military supplies to prevent the perception that U.S. personnel were using donated items. Sorting through the enormous supplies of donated and improperly labeled items increased workloads and extended delivery times. Timeliness, therefore, was more of a distribution issue than the issue of arrival of supply and services. Failure to properly label supplies led to ration shortages for military members and overages for the Haitians. Proper distribution of rations required a distribution plan, organized distribution, and a functioning distribution process (Clifton, 2010).

IQ-6J: What were the other challenges encountered by DoD response teams?

Security was very critical to the response effectiveness. Providing adequate security for relief personnel and disaster victims, as well clearing of debris to situate tents and Fleet Hospitals (FH), were two other challenges that adversely impacted OUR. Finding adequate space to situate the fleet hospitals was very challenging because the FH required larger areas to accommodate beds and surgery rooms (Clifton, 2010). Another challenge was insufficient cash for on-the-spot purchases. Contracting personnel did not have enough cash money to make required purchases. Although, IDIQs contracts were available in Haiti, they were capped at \$25 Million so contracting personnel avoided using them so they do not exceed the limit (SOUTHCOM-1, 2010).

With the challenges presented by broken infrastructures, dislocation of providers of supplies and services, lack of pre-awarded contracts, (Clifton, 2010) and in the absence of clearly defined responsibilities, there was heightened risk of adding complexity to an already volatile disaster-response chain of logistics caused by infusing the system with unsuitable requirements (Apte, 2009). Without detailed provisions in the first phase of the operation and to avoid delaying relief to Haiti, several relief efforts to fulfill requirements were duplicated. These challenges created huge backlogs at ports of entries (POE) to Haiti and mass confusion for responders on the ground in Haiti (Clifton, 2010).

5. Additional Interview Question #2

Were There Performance Measurement Challenges?

IQ-7: What challenges did performance measurement pose during OUR?

In measuring performance, one has to know what is required, when, how much of it is required and the intended use. During OUR, measuring performance was very challenging as no standard performance measurement system was in place. The urgency of the need to deliver aid to the disaster victims was paramount to measuring how well the job was performed (Clifton, 2010). In general, humanitarian relief organizations have focused more on job accomplishments than on performance measurements. Nevertheless, years of trial and error have generated greater emphasis on performance outcomes as organizations strive to manage more effective and efficient disaster relief operations. Selecting the proper performance measurement standard is one of the most intricate steps in the development of performance measurement systems. The extensive variety and depth to which a performance measure characterizes a process is what makes the selection so difficult (Davidson, 2006). The following paragraphs detail some of the challenges of performance measurement that impacted the effectiveness of OUR.

IQ-7a: Lack of standardization

In Haiti, selecting a standardized means of measuring performance was not accomplished due to issues like lack of standardized definition of performance measurement, lack of coordination, lack of visibility, and the overwhelming push supply

system. Moreover, different organizations have different ways of measuring performance. The U.S. air force may measure performance as takeoff and landing sorties; Helicopters (Helos) squadrons may measure it as hours flown, while others organizations measured performance differently from the two.

Most of the items pushed into Haiti from several countries had different units of issue. Items were issued in liters, gallons, five gallons, bottles, containers, etc; however, in counting these items, their units of measurements were often overlooked. There were times when personnel could not quantify certain items. For example, aircraft carriers made and supplied water to Haiti, but there was no standard means of quantifying the amount of water supplied by the carriers and no standard unit of issue was established (Clifton, 2010). In such situations, compiling the quantity of items supplied without converting them to one standard unit of issue will obscure accurate performance measurements and create inefficiencies if such measurements are applied to other processes.

IQ-7b: Measuring misaligned responsibilities

The effectiveness is the degree to which a process meets an objective, while efficiency is the quantitative value of resources expended to achieve an objective (Beamon, 2004). Meeting a disaster response objective requires coordination of effort and a clear command and control system that would provide guidance and alignment of tasks assignments and responsibilities. These objectives should be clearly outlined and performance measurement standards established during Phase Zero planning.

Ineffective Phase Zero planning creates issues like misaligned responsibilities, which can critically hinder accurate performance measurement initiatives and the effectiveness of an operation. For instance, in Haiti, a helicopter squadron flew several hours, some of which were not properly aligned to OURs objectives. A pressing question is, how would this squadron effectively measure its performances? Would it measure the number of hours flown, even though those hours were misaligned to the JTF requirements? In another instance, personnel provided assistances that were not

requested, while others dropped off items without ensuring that they got to the end users. How did they measure performance? Should they measure performance on requirements that never made it to the end users?

The challenge in performance measurement of disaster response logistics arises from the complexity of the supply chain and the extent of organizational control, in addition to the traditional difficulties of what to measure and how to measure it (Beamon, 2004). These misalignments of efforts are performance measurement challenges indicative of ineffective command and control, poor communication, and lack of unity of efforts. Prior training and proper Phase Zero planning is a key to meeting this objective.

IQ-7c: How does trade-offs in performance measurements impact resource management?

The resources of a disaster response operation are measured in regard to the speed, cost, and accuracy with which they are deployed. These are trade-offs that require a systemic process of measurement to effectively manage resources (Davidson, 2006). This issue associated with balancing trade-offs are strikingly similar between the commercial sector and non-government organizations (NGO), such that some commercial processes are applicable to humanitarian logistics. However, NGOs have a distinct set of challenges when it comes to supply chain management. Many of the unique challenges NGOs encounter such as surge deployments and other rapid response missions are organic to the military, an observance of the similarities of the three sectors is significant in order to understand the fundamental principles of the performance-measurement systems for humanitarian logistics (Davidson, 2006). DoD was able to get personnel on ground very quickly, but it was ineffective in determining the right number of support personnel. The overcut in resources created an excess of DoD responders and the supplies of unnecessary items, leading to overspending.

IQ-7d: How was throughput measured?

Throughput is output relative to input: the amount passing through a system from input to output...over a period of time (Princeton University-WordNet, 2010). Therefore, measuring throughput in a disaster-ridden environment requires a clear understanding of

requirements, effective communication of performance standards and measurements among those providing relief and a clear visibility of the requirements and proper supply change management. In Haiti, some of these critical challenges were not addressed until well past the first 100 hours of OUR.

C. SUMMARY

This chapter provided detailed insight into DoD's response operation to the disaster in Haiti. It answered the case study interview questions developed by the researchers, showed logistics and contracting requirements and how DoD orchestrated the efforts of several key players and utilized their capabilities during OUR. The chapter also revealed some of the challenges that hampered DoD's effectiveness in providing vital necessities to aid Haitians affected by the earthquake and how the lack of standardized performance measures impact the effectiveness of the response effort.

The research analysis reveals that although no two disasters are the same, most of the basic contracting and logistics requirements are similar for DoD personnel providing the relief effort as well as the disaster victims during the critical phase of the response, the first 100 hours. Getting these basic necessities to them requires effective control, coordination, communication and unity of effort. The lack of coordination, Command and Control (C2), and communication created series of logistics and contracting chokeholds for the relief personnel, making logistics efforts like transportation, debris clearing, delivery and distribution of supplies and services more tasking. Furthermore, not having an up and running contracting component further delayed the response effort.

Bottlenecks created by these logistics and contracting challenges were tough on the response operation and adversely impacted DoD's response effectiveness during the first most critical 100 hours of the operation.

In Chapter IV, the researchers determine whether DoD's response effort was efficient. The chapter also develops a logistics and contracting model that—together with the YTTM—integrate those capabilities into Phase Zero of DR life cycle to enhance DoD's response effectiveness.

IV. DETERMINATIONS FROM ANALYSIS

In this chapter, the researchers determined from their analysis in Chapter III, that contracting and logistics support to Haiti within the first 100 hours of the disaster was not optimum effective. The researchers found that a delay in establishing a functioning command and control (C2) was an overarching contributor to DoD's less-than effective response effort in Haiti. The cascading impact of C2 on the effectiveness of OUR are as follows:

1. Ineffective Communication (COMMS)
2. Lack of coordination of effort (COE)
3. Misalignment of tasks with Operational Goal
4. Inadequate Situational Awareness

The delayed establishment of C2 diminished clear lines of communications among DoD responders; as a result, much of the contracting and logistics effort were not effectively coordinated, leading to misalignments of individual component tasks with operational goal, and subsequently, inadequate situational awareness. Without sufficient situational awareness showing the extensive scale of Haiti disaster, the C2 component was unable to effectively coordinate the response effort.

The researchers further determined that SOUTHCOM did not sufficiently preplan and/or create an organization structure tailored to handle disasters of extensive magnitudes. SOUTHCOM's organizational structure was designed to facilitate interagency collaboration; however, the scale of Haiti earthquake disaster challenged its ability to support the effort (GAO Report, 2010). A proper Phase Zero planning and the utilization of the Yoder Three-Tier Model (YTTM) for credentialing and integrating contingency contracting officers into DoD's operational plans (Yoder, 2004) is critical for effective response, especially during the first 100 hours of a disaster.

Since the YTTM was specifically tailored towards contingency contracting operations, the researchers developed the Stella's Future Model for Contracting and

Logistics (SFMCL), titled after one of the researchers, as the logisticians parallel to the YTTM (Obayuwana, 2010). The SFMCL shortened, as Stella's Future Model (SFM) will ensure that logisticians are adequately credentialed and incorporated, at the appropriate levels, into OPLAN. Also, it will utilize the YTTM credentialing system to assign specific contracting support responsibilities required for DR operation. The YTTM credentialing with respect to DR contracting support is discussed in more detail later in this chapter.

A. COMMAND AND CONTROL (C2)

SOUTHCOM's support to the disaster relief efforts in Haiti revealed weaknesses in its structure that initially hindered its efforts to conduct a large-scale military operation. Specifically, the structure lacked a division to address planning for operations occurring over thirty days to one year in duration. In addition, the command's logistics function was sub-optimized and had difficulty providing supply and engineering support to the relief effort (GAO Report, 2010). The delays in establishing a fully functional C2 center for the Joint Task force- Haiti (JTF-H) during OUR adversely affected the logistics functions. Requirements for trained and qualified personnel, distribution points and routes, security and rules of engagement (ROE) are just a few of the parameters driven by C2. Monitoring and adapting for changes with key performance parameters indicative of command and control (C2), communication, and transportation are some critical factors in the management of disaster-response logistics and thus, the success of HA/DR operations.

During the initial phase of OUR all Standing Joint Force Headquarters (SJFHQ) personnel were not deployed as such, but instead were assigned to other areas, and this created gaps in capability and structure during the establishment of the JTF Headquarters (HQ) for Haiti (SOUTHCOM, 2010). The absence of a valid Joint Manning Document (JMD) caused skilled planners to be assigned to more menial tasks, rather than the tasks they are trained to perform, thus, underutilizing their expertise. When key personnel and/or skill sets are not identified at Phase Zero or employed effectively throughout an

operation, the full implementation of the DR/HA logistics² process becomes proportionately difficult to achieve (Thomas, 2005), this deficiency was revealed in the first 100 hours of OUR.

The disaster stricken environment of Haiti created a risk of civil unrest and criminal activity, which was potentially threatening to the U.S., international forces, and civilians involved in the relief effort. As such, the logistic distribution points and routes required security but that level of security needed standing and supplemental rules of engagement (ROE) tailored to a HA/DR operation, as opposed to combat environments. Since ROE is a functionality of C2, an ROE specific to OUR was subsequently delayed and remained unpublished until about 10 days after the operation was initiated (SOUTHCOM, 2010). Thus, the control of the flow of logistics suffered with increased disorder and pilferage, due largely in part to volatile security procedures with respect to an inconsistent ROE. Therefore, the effective execution and management of the logistics process was hindered in the absence of steadfast security measures resultant of delayed C2 functionality.

One repercussion of the late establishment of C2 besides those listed above, occurred when Contingency Contracting Officers (CCO) from the Army Expeditionary Contract Command (ECC) arrived in Haiti and found no established C2 in place. The ECC personnel had to rely heavily on the Embassy and other units/agencies for support services. Without the basic essentials to endure the harsh conditions, nor the proper resources to support HA/DR missions, it was apparent that a Contingency Contracting Deployment Package (CCDP)/Early Entry Equipment were necessary. The resources required for a CCO to support HA/DR operations are determined based on several factors:

- Level and complexity of Contracting Effort
- Number of Forces supported (Army - Boots-On-Ground)
- Representation from more than one service

² “HA: The process of planning, implementing, and controlling the efficient, cost effective, flow and storage of goods and materials, as well as related information, from the point of origin to the point of consumption for the purpose of meeting the end beneficiary’s requirements” (Thomas, 2005).

- Involvement of State Dept., USAID, Political, Socio-Economic climate
- Common Contracting Operation Picture
- Establishment of a General Officer Level Task Force and Oversight

Establishing a CDDP based on METT-TC³ for each phase of an operation would offer the on-scene Contingency Contracting Team the resources necessary to support HA/DR operations in the absence of a fully functional C2 (Army ECC, 2010).

Another repercussion of the delayed establishment of a functional C2 was two-fold: first, supporting commands were unable to fully understand who they supported, and second, supporting commands would either dictated or attempted to dictate their own activities in the absence of guidance from the commands in which were to support (Clifton, 2010). One specific example of a command attempting to operate outside of the realm of the supported and a possible case of misaligned tasks, involves a navy vessel whose supplies were rejected by the JTF-H because there was already excess supplies on ground. This vessel reached beyond the operational chain of command to the administrative chain of command, in an attempt to overturn the order from the JTF. This created more work for the supported command and further complicated USAID/DoD drive to coordinate all efforts. This is a C2 deficiency that appears to span a broader scope than deficiencies in the response operation- this is indicative of the different branches of service not properly aligning their individual component goals with joint operation objectives. This consequently limits effective communication and coordination of efforts between DoD responders during contingency operations. The YTTM and SFM provide the means for proper integration and alignment of skills and contingency operational goals regardless of the branch of service leading the operation.

B. IMPACT OF C2 ON OUR EFFECTIVENESS

As identified above, the following factors individually addressed below were the cascading impact of the delayed establishment of C2.

³ METT-TC is an acronym used by the Army of the United States to help commanders remember and prioritize what to analyze during the planning phase of any operation. It stands for Mission, Enemy, Terrain, Troops available, Time, and Civilian considerations. (Army ECC, 2010).

1. Ineffective Communication

In Haiti, teams like the contract community board (CCB) convened and communicated via telephone within the first few hours of the disaster and continued as regularly as possible thereafter, so each component could share Situation Reports (SITREP) and provide situational awareness (Clifton, 2010). Also, SOUTHCOM deployed the All Partners Access Network (APAN)⁴ developed by U.S. Pacific Command (PACOM), in addition to communication tools like the Blogger Roundtables, as a communication tool for collaborating and providing timely assistance to the victims in Haiti (Lawlor, 2010). Although these communication tools aided coordination of efforts, there was a shortage of cellular phones (Clifton, 2010), which were necessary for communication and APAN was still in its developmental stage (Lawlor, 2010), and it did not provide detailed information on the mission accomplished by each DoD's component. One major problem with tools like the APAN, is that the information was mostly useless because it showed that work was performed, but it did not give explanation of how the mission was accomplished (Galrahn, 2010).

Most critically, effective communication was hindered by the lack of a fully functioning C2, which impacted the coordination of both logistics and contract support.

Without a fully functioning command center intact, communications for logistics coordination between the points of origin and consumption were none existent in the first 100 hours of OUR. Supplies were pouring into Haiti via seaport, airport, and land, mainly from the neighboring Dominican Republic with most of the deliveries eluding the chain of command. The uncertainty of supply is a major challenge for disaster-response logistics (Apte, 2009), and this held true for the contracting and logistics coordinators in Haiti. Conventional intra-agency communications are practical within simple logistics

⁴ The Transnational Information Sharing Cooperation (TISC)—the name of the newest version of the All Partners Access Network (APAN)—was developed by the U.S. Pacific Command (PACOM) for communicating with Asia-Pacific countries. TISC was tested in Haitian crisis- APAN is a tool for collaboration to get things done and get them done quickly... APAN has translator capability which enables citizens of different nations to see conversations in their own languages...(Lawlor, 2010).

systems; however, disaster networks are asymmetric, which require strict inter-agency coordination to effectively manage and distribute supplies and equipment processed through the system.

Better communications with Army ECC HQ could have stimulated oversight of high dollar contract actions. Major contracts were written by Contingency Contracting Officers (CCO), some of whom required additional guidance. An adjustment of the contract review threshold would probably benefit the contracting effort and warrants should be issued based upon the CCO experience level. A conservative review can be established for contracts of \$100,000 and above, moderate for contracts between \$300,000 and \$500,000 and an aggressive review for contracts above \$500,000. Based on experience, warranted CCO with less than one year should be capped at a threshold of \$25,000, for those with one to two years of experience \$100,000 to \$500,000, and finally those with more than three years should be set above \$500,000. Executing contracts without the appropriate level of warrant, or making cash purchases without proper oversight pose the risk of improper controls in the absence of C2 (SOUTHCOM, 2010).

Phase Zero incorporation and credentialing of CCO into OPLAN as detailed in Yoder Three-Tier Model (YTTM), identifies the appropriate level of contracting experience and task assignment requisite of contracting personnel involved in contingency operations (Yoder, 2004). When properly implemented, the YTTM and SFM will ensure DoD contracting and logistics responders can effectively communicate and coordinate their efforts during contingency operations such as OUR.

2. Lack of Coordination of Efforts (COE)

Coordination of effort is an important element of effective disaster relief effort. This was a huge challenge in Haiti. Relief efforts between USAID, OUR components, civilian volunteers, and other foreign nations were uncoordinated during the first 100 hours. Several entities poured supplies into Haiti while others went there to provide services without proper coordination, and a majority of them did not know with whom to coordinate their efforts once they arrived on the scene. A large number of relief organizations including USAID initially had unclear guidance on which organization(s)

they were supporting making it difficult for them to properly coordinate their efforts. For instance, the initial support USAID requested from the JTF-H was not immediately met since the JTF was unsure about the level of support it could provide outside of its assigned tasks (Clifton, 2010).

Due to the lack of coordination and unclear tasking, several military units were either stuck on tasks that were not required or discharged from their assigned task prior to tasks completion (Clifton, 2010). Most tasks and responsibilities were not preassigned, rather, task were assigned during the disaster operation as the need arose, and the different units performed tasks they deemed important until they were assigned specific tasks. Additionally, the tasks were the aligned with the operational goal (Clifton, 2010).

Consequently, supplies were delivered by trucks, air, sea and some were even dropped from the sky via helicopters but most of these supplies were not getting to the victims due to the lack of coordination. According to CNN World report, a relief worker, Alain Joyandet, the French minister in charge of humanitarian aid, complained that U.S. military build-up was hindering relief efforts. Another relief worker complained that aid was not reaching many of the 2 million Haitians who needed aid, because those who are supposed to be coordinating the efforts are inept. "It's terrible," said Eric Klein, head of disaster-relief agency CAN-DO, "there's got to be coordination" (CNN World, 2010)."

3. Misalignment of Tasks With Operational Goals

USAID immediate goal in Haiti during OUR was to save lives and ..."the goal of the relief effort in the first 72 hours will be focused on saving lives...and USAID would endeavor to coordinate all efforts across the federal government (Rajiv Shay, USAID Administrator). Shay emphasized that USAID would utilize all U.S. assets and capacities in order to promptly and effectively provide assistance to the disaster victims (GlobalSecurityOrg, 2010).” In Haiti, U.S. logistics and contracting efforts were uncoordinated, resulting in several misaligned tasks, which made the operational goal difficult to attain during the first 100 hours (Clifton, 2010).

Attempts to provide aid when not properly aligned with operational goals could result in confusion, delays, duplication of efforts, and unnecessary wastage of funds.

Thus, each response units must be conversant with the overall big picture to better understand the situation in order to properly align tasks and responsibilities with operational goals. To this end, a U.S. Army component purchased several 5K tankers for fueling operations, whereas the response operation required smaller vehicles due to the rough terrain and the pile of debris that made a majority of Haiti's roads difficult to navigate—especially with large vehicles and heavy tankers. Such misalignment of tasks and uncoordinated efforts pinpoint lack of communications, improper delineation of tasks by the C2 component and situational unawareness (Clifton, 2010).

4. Inadequate Situational Awareness

Federal law, Section 515 of the Homeland Security Act (6 U.S.C. § 321d(b)(1)), requires the National Operation Center (NOC) to provide situational awareness and a common operating picture for the entire federal Government, and for state, local, and tribal governments as appropriate, and to ensure that responders and decision makers receive critical disaster-related information—in this case, to provide situational awareness directly related to the response, recovery, and rebuilding effort in Haiti. (DHS, 2010).

The law defines situational awareness as “information gathered from a variety of sources that, when communicated to emergency managers and decision makers, can form the basis for incident management decision making (DHS, 2010).” Therefore, situational awareness paints a common operating picture for responders to ensure that critical disaster-related information is properly disseminated. In Haiti, situational awareness was disseminated to military planners through aerial images of Haiti—taken by the U.S. Air Force Global Hawk—to facilitate the coordination U.S. military support (SOUTHCOM, 2010). However, the earliest of these images posted on SOUTHCOM website was dated 14 January 2010, which corresponds to the date the Deployable Joint Command and Control (DJC2) arrived in Haiti. Since a fully functional C2 was not established until 10 days after the disaster (SOUTHCOM, 2010), DoD components did not have clear guidance to properly utilize the situational awareness provision at their disposal and this adversely affected alignment of their respective goals to the JTF's operational goals.

One indication of the lack of situational awareness in Haiti, was that the USNS Mercy was taken off dry-dock to assist in the relief effort only to be greeted by patients with chronic issues that were not caused by the earthquake. Proper situational assessment facilitated by clear communications, coordination and control would have prevented this unnecessary mission, prevented the waste of funds and shift in Mercy's operational cycle.

Another situational awareness issue was that the Haitians did not like the Meals Ready Eat (MRE) and were discarding them, but that was what DoD supplied—in huge and excessive amounts. There was also an overabundance of bottled water supplied to Haiti, to the extent that people washed cars with bottled water (Clifton, 2010). The initial supply of MREs and water was a humanitarian gesture; however, continued supply when it was apparent that the victims were unreceptive to the meals and wasting the water delineates situational unawareness caused by the lack of control element and inadequate Phase Zero planning.

C. PHASE ZERO PLANNING

Preparation for an effective response should begin at Phase Zero of an HA/DR operation as this analysis reveals. Phase Zero planning sets the stage for proper response during contingencies since it is the phase where responses to contingencies are shaped (Yoder, 2010). Such proactive preparatory measures improve response coordination, communication, and command and control, which were deficient during the first 100 hours of OUR. The command and control challenges experienced in Haiti could have been addressed provided there was adequate preplanning prior to the occurrence of the disaster. Humanitarian Assistance/Disaster Response (HA/DR) operations, irrespective of location, magnitude and extent of devastation, are essentially driven by logistics and the ability to deliver on time supplies to victims of disasters is crucial to their survival (Clifton, 2010).

Timely responses are often challenged by factors like the chaos created by the earthquake, clusters from relief personnel and relief items pushed to Haiti, and lack of coordination of efforts. These factors usually makes response and relief goals difficult to attain (Clifton, 2010). Effective Phase Zero planning utilizing lessons from past

disasters would enable DoD to identify requirements early, preposition supplies, identify and train disaster response personnel as prescribed by the Stella's Future Model, to facilitate prompt and effective disaster responses. Thus, incorporation of YTTM (Yoder, 2004) and SFM will aid SOUTHCOM in identifying, credentialing, and integrating contracting and logistics personnel into its contingency planning phase.

D. STELLA'S FUTURE CONTRACTING/LOGISTICS MODEL (SFCLM)

The SFCLM abbreviated as Stella's Future Model (SFM) is based on the premise of the Joint Effects-Based Contracting (JEBC) (Poree et al, 2008) and Yoder's Phase Zero (Phase Zero) concepts (Yoder, 2010). The SFM creates a parallel hierarchy in logistics similar to the Yoder Three Tier Model (YTTM) for contingency contracting officers (CCO) by designing an integrated logistics training and credentialing pipeline. Additionally, the SFM creates a DR contracting pipeline, know as Disaster Response Joint Contracting Officer (DRJCO), which is derived from the YTTM but tailored specifically for DR. In SFM, DR contracting incorporates contracting with logistics. The DRJCO will be credentialed at YTTM Tier levels (Tiers I to III), and will also be certified at DR I through III so that they have enough background in DR logistics to provide adequate support to logisticians in the field. The SFM takes a forward look at "Future" logistics and contracting requirements to determine the type and level of contracting and logistics support DoD requires in planning for and responding to future disasters.

The JEBC concept integrates contingency contracting officers (CCO) into the warfighter's operational planning cycle to align tactical contracting efforts with the warfighter's effort (Poree et al, 2008); therefore, in tailoring the SFM for DR, the researchers determined that the JEBC concept will be most beneficial if Disaster Response Joint Contracting Officers (DRJCO), led by Yoder's Integrated Planner and Executor (IPE) (Yoder, 2004) and Disaster Response Joint Logisticians (DRJL), led by the Integrated Logistics Executor (ILE), are integrated into the planning phase of disaster response (DR). Integration of the DRJCO and DRL in addition to other support and field level contracting officers and logisticians prescribed by the SFM, DoD will enable DoD

to determine future requirements and customize the CCO and logistician's efforts towards specified and predefined response structures.

1. Disaster Response Joint Logistics (DRJL) Pipelines

Disaster Response Joint Logistics will be a specialized field of study for logisticians. A senior military or DoD civilian logisticians, the ILE, will be the lead logistician. The DR Identifier (DRI), DR Requisitioner (DRR), and Logistics Task Teams (LTT) will assist the ILE in identifying Phase Zero logistics requirements and developing plans to enhance prompt and effective disaster responses. The DRCCO pipeline mirrors the YTTM, modified for disaster response operations, as discussed under DRJCCO Pipeline. Figure 5 shows the structure for integrating DRJL and DRJCO at appropriate levels of the disaster response life cycle. Personnel above the bottom black line represent those involved in Phase Zero planning, while personnel beneath the bottom black line are the on-scene responder in Phase One, of DR life cycle.

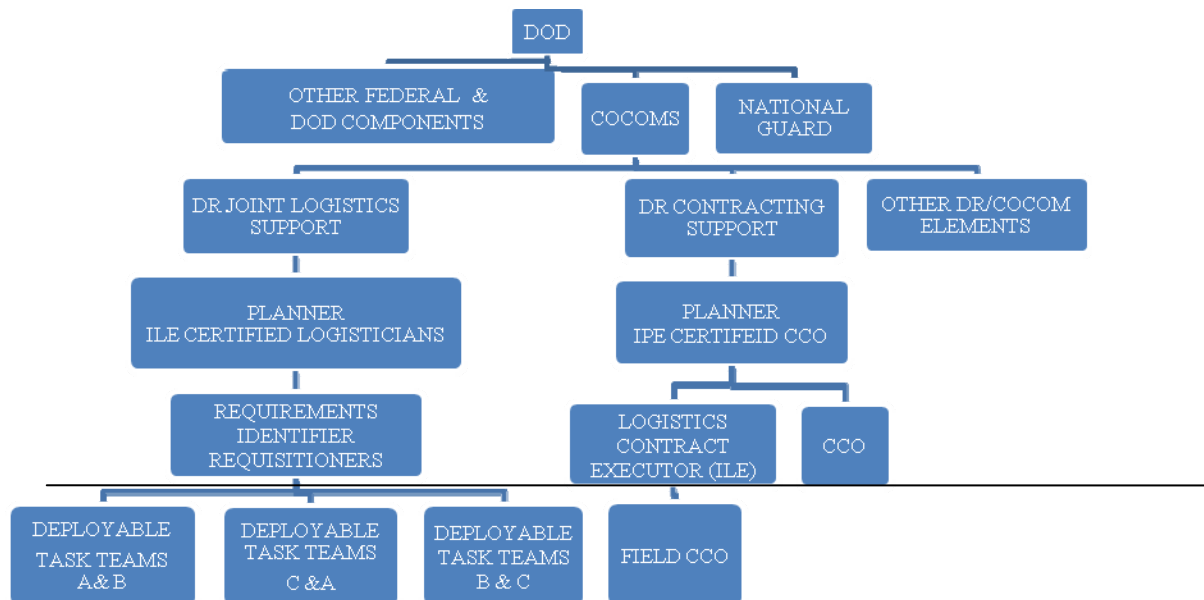


Figure 2. Organizational Chart for Disaster Response Logistics and Contracting

a. Disaster Response Joint Logistics Functions and Certification

Table 1 gives a snapshot of the functions of DRJL personnel, while Table 2 outlines the education, proficiency, and credentials required for DRJL certification.

Functional requirements and certification level of DRJL		
Title	Function	Certification Level
Logistics Task Teams (LTT)	<ul style="list-style-type: none"> ➤ Deployable teams ➤ Provides and coordinate on-scene logistics support ➤ Provide 1st hand logistics requirements to ILE/DRR/DRI ➤ Logistics point of contact in a disaster response operation 	DRL Level I
DR Identifier (DRI)/ Requisitioner (DRR)	<ul style="list-style-type: none"> ➤ Identify DR logistics requirements ➤ Provide LCE with up to date logistics requirements list ➤ Determine prepositioning logistics requirements ➤ Ensure integration of all logistics support elements ➤ Train the LTT and other DR logistics support personnel 	DRL Level II
Integrated Logistics Executor (ILE)	<ul style="list-style-type: none"> ➤ Lead logistician ➤ Actively involved in Phase Zero and beyond ➤ Plan and develop tactic and operational DR logistics support ➤ Strategize theater logistics support for each regional segment ➤ Align DR logistics to DR objectives ➤ Ensure logistics sustainability and readiness ➤ Communicate logistics goals, metrics and deficiencies to COCOM 	DRL Level III

Table 1. Functional requirements and certification level of DRJL

Disaster Response Logistics Certification Requirements		
Disaster Response Logistician Level I	Disaster Response Logistician Level II	Disaster Response Logistician Level III
<ul style="list-style-type: none"> ➤ Certified DAWIA Level I or II Lifecycle or Acquisition Logistics Certifications ➤ Possess a minimum of 4 years experience in Logistics, Acquisition, Finance or other related fields. ➤ Possess a Bachelors Degree in Logistics, Management, Business, Business Administration, Supply Chain Management or related programs. ➤ Must be a 0-3 or above from any of the services or the DoD civilian equivalent. ➤ Joint Professional Military Education (JPME) Level I.* 	<ul style="list-style-type: none"> ➤ Certified DAWIA Level II Lifecycle or Acquisition Logistics Certifications ➤ Possess a minimum of 6 years experience in Logistics, Acquisition, Finance or other related fields. ➤ Possess a Bachelors or Masters Degree in Logistics, Management, Business, Business Administration, Supply Chain Management or related programs. ➤ Must be a 0-4 or above from any of the services or the DoD civilian equivalent. ➤ Joint Professional Military Education (JPME) Level I. * 	<ul style="list-style-type: none"> ➤ Certified DAWIA Level III Lifecycle and Acquisition Logistics Certifications ➤ Possess a minimum of 10 years experience in Logistics, Acquisition, Finance or other related fields. ➤ Possess a Masters or Doctorate Degree in Logistics, Management, Business, Business Administration, Supply Chain Management or related programs. ➤ Must be a 0-6 or above from any of the services or the DoD civilian equivalent. ➤ Joint Professional Military Education (JPME) Level II, such as Industrial College of the Armed Forces (ICAF) *

Table 2. Disaster Response Logistics Certification Requirements

In addition to the above DRL requirements, Levels I through III DR Logisticians must undergo DR training. Training can be developed by COCOMs, DAU or individual units providing DR support personnel. However, training must be standardized and should be tailored as a one-size-fit-all so that all DR personnel, regardless of branch of service undergo the same type of training. This will ensure that all response efforts are standardized.

** JPME is required for all military personnel filling the above positions.*

b. ILE Certified Logistician

The lead logistician will bear the title Integrated Logistics Executor, certified at DRL Level III. The ILE will be integrated into the joint operations planning for DR to align joint logistics requirements and logistics deployments support with the COCOMs and DR Joint Task Force (JTF) objectives during Phase Zero and Phase One, respectively. The ILE will plan and develop effective tactical and operational logistics

support strategies, align logistics strategies with DR objectives, ensure there is adequate support and sustainability of DR logistics requirements and operational readiness, ensure all logistics personnel are trained in DR and there are enough personnel for deployment during crisis. The ILE will be actively involved in the planning phase of COCOM's DR operational plan and throughout the DR logistics life cycle, communicate logistics objectives, metrics, and deficiencies, to the COCOM.

c. DR Requirements Identifiers (DRI)/ Requisitioners (DRR)

DRI and DRR may be the same or different personnel. All DRI/ DRR will at a minimum, be certified at DR Level II. The DRI will identify requirements in Phase Zero that will be needed for disaster responses and the DRR will work with the Logistics Contracts Executor (LCE) to requisition and award contracts for those requirements. They will assist the ILE in Planning/development of effective logistics support prior to the occurrence of disasters and ensure adequate logistics support and services are available in all COCOM's regional segment. Additionally, they will ensure proper integration of all support elements to maximize logistics support and readiness; utilize lessons learned from previous disasters to identify and determine common DR logistics requirements and ensure that the LCE has up to date lists of all DR requirements; train the LTT and other services logistics personnel as required. The DRI/R requirement determination function is expanded below.

(1) Requirements Identification. Requirements determined necessary for DR will be requisitioned upon approval by the proper command and decision chain. Requirements that do not have to be prepositioned will be forwarded to the DRJCO to be placed on the Indefinite Delivery Indefinite Quantity (IDIQ) or Multiple Award Contracts (MAC) as prescribed by Yoder (Yoder, 2004) and executed when crisis occurs. DR requirements will be determined and identified based on, but not limited to, the following factors.

- Geographic Location
- Mode of Accessibility/Transportation Requirements
- Climate, Seasons and Environmental Conditions

- Culture
- Demographics and Population Size
- Political Views
- Religious Views
- Relationship With the U.S.
- Needs of U.S. Relief Providers
- U.S. Citizens Resident in That Location

(2) Prepositioning. All approved requirements for prepositioning will be forwarded to the CCO for synopsis and contracts award. Factors like costs, availability/suitability in the regional segment, expiration dates, etc. should be considered before selecting items for prepositioning. Items like generators, long-life batteries, water purifiers, reverse-osmosis equipments, water bladders, blankets, debris clearing equipments, and other logistics support items with long expiration or no expiration dates may be considered for prepositioning.

d. Logistics Task Teams (LTT)

These are logisticians certified at Level II or Level I and may or may not be subordinate to the DRI and/or DRR. The LTT will be trained for on-scene disaster response and will be the lead logisticians during crisis response in the absence of the DRI or DRR. The LTT will be the first logistics line of defense and will communicate directly with the DRR, DRI and/or LCE. LTT personnel will be assigned to specific teams and will respond to disasters on a roster basis. Each LTT will know months in advance of a disaster what timeframe they will be required to respond to disasters as they will be on call for disaster response. This will enable the LTT to plan accordingly. Depending on the nature and extent of the disaster, more than one LTT may be required to respond to a disaster. Like the DRI/ DRR, the LTT will be able to plan and develop effective DR and sustainability strategies, develop effective on-scene logistics procurement and supportability measures consistent with the JTF goals, execute and

manage on-scene DR logistics, communicate DR logistics need to the DRI/DRR and coordinate all DR logistics support directly with the JTF/JTF staff during DR operations.

2. Disaster Response “Joint” Contracting Support (DRJCS) Pipeline

DRJCS is a construct based on the JEBC and YTTM, designed to integrate contracting personnel into the early phases of disaster response planning, it also aligns DR contracting support with DR operational goals. DRJCS creates the disaster response contingency contracting officer equivalent of the YTTM and assigns specific responsibilities to DR contracting personnel during the different phases of DR life cycle. DRJCS will have a preassigned staff dedicated to disaster response efforts in order to enhance the COCOM/JTF objectives. The lead CCO within the DRJCS will be the Integrated Planning Executor (IPE).

Table 3 outlines the functions of the DRJCO at the different levels of certification. Table 4 is the YTTM that delineates the education, skills set and credential requisite of DR contracting personnel at the different level of certification.

Functional Requirements & Certification Levels for DRJCO		
Title	Functions	Certification Level
Field CCO (FCCO)	<ul style="list-style-type: none"> ➤ On scene-first (contracting) responder ➤ Deploys with the LTT ➤ Lead CCO on ground ➤ Coordinate all DR contracting efforts during DR operations ➤ Conduct oral solicitations if necessary and execute contract awards ➤ Liaise with vendors/contractors and JTF component ➤ Assist LCE in Phase Zero contracting planning/development 	Yoder Tier I: Ordering Officer DR I
Logistics Contract Executor (LCE) and CCO	<ul style="list-style-type: none"> ➤ Assist IPE with Planning/development of DR contracting support ➤ Conduct Market Research ➤ Pre-award contracts ➤ Maintain contracting procedures and integrity ➤ Integrate lessons learned in identifying proper contracting procedures ➤ Support DRI/DRI logistics effort ➤ Train FCCO and other DR contracting personnel 	Yoder Tier II: Leveraging Contracting Officer DR I or II
Integrated Planner & Executor (ILE)	<ul style="list-style-type: none"> ➤ Plan, develop and strategize Theater contracting support ➤ Lead CCO ➤ Actively involved in Phase Zero and beyond ➤ Align DR contracting goals with COCOM's DR objectives ➤ Develop tactical DR contracting support for DR logistics requirements ➤ Communicate DR contracting objectives, metrics, waiver requirements to COCOM ➤ Ensure availability and readiness of DR contracting personnel 	Yoder Tier III: Integrated Planner & Executor (IPE) DR II or III

Table 3. Functional requirements and certification levels for DRJCO

Model Tier Level & Model Title	Functions/Education/Rank	Highlights and Drawbacks
Ordering Officer—Tier One	<ul style="list-style-type: none"> • basic ordering • some simplified acquisitions • training: DAU CON 234 • DAWIA Certified CON Level I or II • junior to mid-enlisted, junior officers, GS-7 to GS-9 1102 series civilians 	<ul style="list-style-type: none"> • simple buys • little integration • no operational planning • no broad liaison functions
Leveraging Contracting Officer—Tier Two	<ul style="list-style-type: none"> • leverages to local economy • reduces “pushed” material support • training/education: <ul style="list-style-type: none"> • DAU CON 234, recommended higher education • DAWIA Certified CON Level II or III • senior enlisted, junior to mid-grade officers, GS-11+ 1102 series civilians 	<ul style="list-style-type: none"> • better local operational planning • some integration • more capability for the operational commander • no planned theater integration • no broad liaison functions • may perform to optimize local operations at the detriment to theater ops
Integrated Planner and Executor (IPE)—Tier Three	<ul style="list-style-type: none"> • highest level of planning and integration—joint • linked/integrated with J-4 and J-5 • creates and executes OPLAN CCO strategy • provides direction to tier two and one • links operations strategically to theater objectives of COCOM • education: Master’s degree or higher and, JPME Phase I and II • DAWIA Certified CON Level III, and other DAWIA disciplines (LOG, ACQ, FIN, etc.) • senior officers (O-6+), senior civilians, GS-13+ or SES 	<ul style="list-style-type: none"> • performs operational and theater analysis, integrates results into OPLAN • link between COCOM and OPLAN to all theater contracting operations • coordinates theater objectives with best approach to contracted support • can achieve broader national security goals through effective distribution of national assets • includes planning, communication, coordination, and exercising with NGO and PVO in theater

Table 4. YTTM for Contingency Contracting Operations (Yoder, 2004, p. 17)

a. Integrated Planner and Executor (IPE)

The IPE holds the highest credentials at YTTM Tier-Three level and is able to perform at the highest level of integration, planning and execution (Yoder, 2004). When integrated into the DR planning phase, the IPE will align the DR contracting efforts with the COCOM's DR goals through proper planning, coordination and execution of contingency contracting prior to, and during disasters. The IPE will develop effective tactical and operational contracting support strategies, ensure prompt contracting support for DR logistics requirements and other operational contracting support, ensure all contracting personnel are trained and certified at the appropriate level, ensure CCOs are assigned to the different DR task teams and are available for deployment during crisis. The IPE will be actively involved in the COCOM's DR operational planning and effectively communicate contracting objectives, metrics, and waiver requirements (if any), to the COCOM.

b. Logistics Contract Executor and (LCE)/CCO

The LCE will be certified at YTM Tier-Two level and will assist the IPE in meeting joint DR contracting goals during Phase Zero and beyond. The LCE will plan and develop effective contracting support and pre-awarded contract requirements prior to the occurrence of disasters. The LCE and CCO will conduct adequate market research within the U.S. and in the COCOMs regional segment to identify vendors that can meet the DR logistics requirements. The LCE/CCO ensures adequate competition by synopsisizing the DR requirements to solicit bids/ proposals from prospective vendors and offerors. Once qualified vendors are selected, the LCE will ensure all proper contracting procedures and policies are followed in awarding the DR logistics support contracts. The LCE/CCO will ensure all contracting support elements are in place to maximize DR contracting support and operational readiness. The LCE/CCO will integrate lessons from previous disasters with the FAR and agency procedures in identifying the proper contract type(s) to meet the DR logistics requirements. The LCE/CCO will train the FCCO and other services contracting personnel as necessary.

c. Field CCO (FCCO)

The FCCO will be certified at the YTM Tier-One level and assigned by the LCE to the different LTT. FCCOs will be trained on on-scene contingency contracting/DR support and will be the lead CCO on ground during DR in the absence of the LCE. They will assist the LTT in meeting contracting requirements beyond pre-awarded contracts. The FCCO may conduct oral solicitations and contract awards, including cash purchases during disaster response. FCCO will liaise directly with the LCE, vendors/contractors, and will administer DR contracts. The FCCO will also be the ‘go-to’ contracting personnel within the JTF. FCCO will also assist the LCE in planning and developing contract support strategies as well as soliciting and pre-awarding DR contracts.

3. Additional Steps Required for Effective SFM Implementation

Phase Zero implementation of the SFM requires that the following steps be taken in order to effectively develop and incorporate SFM into DR operational life cycle.

a. Alliances and Partnerships

The COCOM will forge allegiances with USAID and other key players and partner with foreign military and organizations involved in the business of to facilitate effective communication, command and control, and to effectively coordinate and standardize DR processes.

b. Regional Segmentation

DoD/COCOM will segment its AOR such that two different countries are designated as staging/operational locations for DR operations. The two countries may not share common boundaries to mitigate the possibility of both regional segments been affected by the same disaster. The need to study and understand different regions, the types of disasters common to each area and plan ahead for humanitarian and disaster response operations cannot be over emphasized. Misunderstanding of disaster regions

may create unnecessary challenges that could defeat all common sense logistics management processes, such as the push, rather than pull system, which occurred in Haiti during OUR (Clifton, 2010).

c. Funding

Financial managers and planners must identify the line(s) of accounting for the COCOMs mission based on the AOR and ensure that funds are available for contract awards and meeting DR logistics requirements.

d. Personnel Identification and Task Assignments

Personnel must be identified, trained and credentialed as prescribed by SFM and YTTM (Yoder, 2004). Also disaster response duties and tasks must be assigned prior to disasters. Selected DR personnel need not be attached to COCOMs, but they must be trained and ready for immediate activation during disasters. All military units must predesignate and train disaster response personnel. These personnel will either be assigned to the COCOM during disasters or act as liaisons/command representatives if the specific unit is tasked for disaster response duties. All key personnel like the IPE and ILE must be full time staffs of the COCOM.

e. Requirement Determination

Determine logistics and contracting requirements prior to disaster. Pre-award contracts (IDIQ, MAC, etc.), preposition requirements, and have a standardize list/ flow diagram of the different types of logistics support required at the various stages of the response operation and identify who, where and how the requirements will be met. Factor in global and Private Volunteer Organization (PVO) support when defining requirements. CCO must conduct market research to seek global and local vendors and perform proper contracting guidelines in awarding contracts.

*** Limit prepositioning considering shortfalls and things like expiration dates.

f. Barriers and Restrictions

Determine issues like cultural, religious, gender, and traditional barriers when determining requirements and assigning personnel. For instance the Tsunami response required female personnel to present relief to the Muslim women affected by the disaster.

4. Assumptions in Developing the SFM

In designing the SFM, the researchers assumed the following:

- The YTTM is under-utilized YTTM but if combined with the SFM and effectively incorporated into the DR life cycle, specifically in Phase Zero planning, the combination will streamline and enhance DoD response effectiveness.
- DoD will adopt the SFM in association with the YTTM to create a specialized field in contracting and logistics (i.e. the DRJCO and DRJL pipelines) specifically tailored to DR operations. The required contracting and logistics response may be similar in all disaster response efforts, but the deployment of these support services is different. Therefore, DoD may not respond in similar manners to every disaster. A contingency such as the Iraqi war for instance, pose a different challenges than contingencies encountered during disasters and other crisis situations. The SFM and YTTM provide the foundation for separately integrating contingency contracting and logistics requirements to different contingencies.
- All military units will provide personnel for training and preparation for disaster response. Such personnel will be immediately available for deployment in support of DR operations.
- COCOMs and DoD will be committed to implementation and execution of the SFM.

5. Limitations to the SFM Implementation

Implementation of the SFM may be limited by the following:

- DoD may not have enough personnel for DR assignments.
- Creating a separate disaster response contracting and logistics pipeline may be cumbersome and may require modifications to present logistics and contracting models
- Defense Acquisition University (DAU) may not be properly staffed to provide training leading to DR certifications
- Funding may not be available to implement the SFM
- Personnel and commands may choose to maintain status quo than adopt a change—even when such a change offers long-term benefits

6. Implications and Recommendations for SFM Implementation

If implemented properly, the SFM will reduce disaster response challenges such as: Command and control, unity/coordination of effort, and communication. The researchers determined that cost and manpower constraints may adversely affect the effective implementation of SFM. Therefore, they recommend that personnel be selected and trained within their various units. Upon request from the COCOMs, these personnel will be temporarily assigned to the COCOM to conduct DR operations. Each branch of service will be given a quota and units within each service will be assigned predetermined personnel requirement. Units on deployment away from the homeport will not be tasked with personnel requirements. Personnel returning from extended deployments or in the process of deploying may be exempted from DR duties. Top level logisticians and contracting officers must be permanently assigned to the COCOM.

Funding and line of accounting will be predetermined and the COCOM should have given a sizeable pot of money to fund DR. This will create proper control of the DR effort and spending and will prevent wasteful spending, which may result from duplication of efforts. Also, it will ensure that there is funding available and how much of the funds can be used for DR. DAU may develop the DR course with support from

COCOM and DoD components and these training may be offered and proctored by COCOM or command personnel other than DAU staff. The course may also be offered online to reduce DAU staffing requirements and personnel absentee from their respective units. DR training and SFM implementation should be mandatory for personnel designated commands tasked with DR personnel requirements. This will preclude commands from adopting the “status quo.”

E. SUMMARY

In this chapter, the researchers determined that DoD was not as effective as it could be in responding to disasters. Issues like situational unawareness, which was directly linked to delayed establishment of command and control and the cascading impact on communication between DoD response personnel and other key players, coordination of effort and misaligned responsibilities, were responsible for DoD’s sub-optimized response effectiveness. The analysis revealed that DoD may not be matured enough as a joint force in incorporating personnel from different branch of services who do not speak the same operational language, therefore they recommended that DoD implement the Stella’s Future Model (SFM) in combination with the YTTM (Yoder, 2004) to streamline and standardize DoD DR operations.

The researchers made some assumptions and pinpointed limitations to effective implementation of the SFM. In addressing possible implications, the researchers suggested that to decrease the impact of cost and manpower constraints, which could adversely affect the implementation of the SFM, units providing disaster response personnel should do so only during actual disasters but such personnel must be indentified and trained prior to the disaster. Proper implementation of the SFM will reduce common issues that plague DoD disaster response operations. Issues like C2, Communication and Coordination of efforts will be reduced or eliminated and DoD’s disaster response operations will become more effective.

The next chapter concludes this research analysis and provide recommendations to improve DoD DR effectiveness. Additionally, it suggests critical areas for further research to promote DoD effectiveness and implementation of the SFM.

V. SUMMARY, CONCLUSIONS AND AREAS FOR FURTHER RESEARCH

This chapter summarizes the four preceding chapters and concludes the research analysis by answering the primary and secondary questions on which the research analysis was conducted. Based on the findings from the conduct of this analysis, the researchers provide recommendations on how DoD can respond more effectively to disasters. Finally, the researchers suggested areas for further studies to afford DoD more tools to streamline its response processes and ultimately become more effective by getting the right supplies and services, in the right amount, at the right cost, and at the right time to disaster victims.

With limited quantitative data available for the period observed in this research, establishing a context of past HA/DR operations, and joint military operations and planning, contributed to the team formulating a qualitative analysis of logistics and contracting effectiveness in the first 100 hours of OUR. In developing the basis in which to impartially evaluate the actions of a disaster response operation, such that the effectiveness of the logistics and contracting efforts accomplished in the first 100 hours of OUR may be determined, this team structured its research around the primary disciplines of the thesis question. The analysis revealed similarities between the objectives and challenges of OUR and past disaster operations. As such, the effectiveness of the initial logistics and contracting support for each operation was dismal. These findings led this research team to the corresponding conclusions and recommendations for the logistics and contracting support conducted in the initial 100 hours of OUR.

A. SUMMARY

The U.S./DoD has been in the business of disaster response for many decades. However, its response efforts to disasters, domestic or foreign, often fall short of its effectiveness yardstick. The 2004 Indian Ocean Tsunami, the 2005 U.S. Gulf Coasts Hurricane Katrina and more recently, the 2010 Haiti earthquake disasters are testaments

of DoD's less than effective disaster response efforts. In the recent National Security Strategy (NSS), President Obama, emphasized the expanding range of military operations (ROMO) to include humanitarian aid and disaster response and operations and the growing need for DoD to respond to crisis situations. Against this backdrop, the researchers developed a research analysis and research questions in Chapter I, to assess DoD's effectiveness in the Haiti disaster response effort, to determine where it fell short in meeting disaster response objectives and to provide recommendations on how it can better improve its disaster response operations.

Chapter II, reviewed some historical and present literature on disasters and U.S./DoD responses to those disasters to determine if there are any trends and/or progress in the way DoD respond to disasters. In reviewing past history on DoD disaster response operations, the researchers noted that a trend in ineffective response operations indicative of deficiencies in command and control establishments.

Chapter III, conducted a research analysis tailored around the researcher questions on DoD's effectiveness in its recent response operation to the January 2010, Haiti earthquake disaster; it answered the research interview questions and analyzed those answers using the response from participant in the research analysis. They also identified challenges DoD responders encountered during OUR and that lack of standardize means of performance measurement obscure the effectiveness of performance measurements.

Chapter IV, determined from the research analysis findings that DoD there was shortcomings in DR effectiveness during its recent Operation Unified Response (OUR). Consistent with the trends identified from past disaster response reviewed, the researchers determined that a deficiency in C2 had a cascading negative impact on DoD response effectiveness during the first 100 hours of OUR. This alluded that DoD has not successfully incorporated lessons from previous disasters into its present-day response processes; the team found that although some progress had been made, U.S./DoD still have ample room for improvement in its disaster response efforts.

B. CONCLUSION

As a world leader and frequent responder to disasters and crisis situations, the U.S. and DoD must strive to improve its disaster response effectiveness. Disasters are becoming more frequent and more destructive as the world becomes more curious and evolves into greater technological realms that may create environmental catastrophes such as global warming and nuclear incidents. Also, earthquake may happen in California in a magnitude never before seen in history or it may happen as far away as “Never Land.” Regardless of where disasters occur, the U.S. must be prepared to take the lead in meeting the uncertainties and challenges they present. It must also be willing to work with foreign nations and response organizations so that the brunt of disaster challenges does not fall squarely on U.S. shoulders.

The military must be robust and resilient in order to deal with the uncertainties of combat, which he referred to as the “fog of war.” This resilience also applies to disasters situations as well. Thus, revealing the structures that provide such robustness is useful to all organizations (Weeks, 2010). Therefore, in order to shed some light into the structures into DoD’s disaster response structure and effectiveness, the researchers re-examined the questions they developed in conducting this research analysis, specifically, questions on what DoD did right and what it did not do so well during the first 100 hours of the operation.

Conclusion 1:

U.S./DoD has not fully mastered the skills of disaster response and as such, its response effectiveness leaves ample room for improvement.

The research analysis conducted in Chapter III led to the determination in Chapter IV that that DoD contracting and logistics support to Haiti during the first 100 hours of the disaster was not very effective. A delay in establishing a functioning command and control (C2) and the consequential impact on communications, coordination of efforts, created insufficient situational awareness and misalignment of goals, which made attaining DoD response objective difficult.

Conclusion 2:

SOUTHCOM, which led DoD efforts, did not sufficiently plan or create an organization structure expansive enough to handle disasters of extensive magnitudes.

The research analysis revealed several shortcomings in SOUTHCOM's support to the disaster relief efforts in Haiti. Weaknesses in SOUTHCOM organizational structure adversely impacted its efforts to conduct a disaster response of such magnitude as the Haiti earthquake. Additionally, its logistics function was sub-optimized causing delays in providing on-time supply services to the disaster victims. Proper Phase Zero planning would alleviate some of the response challenges and create the awareness that SOUTHCOM needs to extend its organizational structure to accommodate critical contracting and logistics capabilities.

Conclusion 3:

SFM and YTTM provide the basis for DoD to better align its logistics and contracting goals to DR objectives to enable a n effective response mechanisms.

Without the right composite of people, products, and processes it is impossible to effectively integrate contracting and logistics capabilities to improve the response effort. Therefore, incorporating the S FM into the DR life cycle create a responsive contracting and logistics capabilities for effect deployment and support of DR operations.

Conclusion 4:

Some aspects of OUR went right while other aspects went wrong resulting in lessons that can be used in planning for future disasters

1. What Went Right

Thus far, this research has identified some significant issues in the response phase of OUR, so determining what went right in the first 100 hours posed a challenge for this team. However, the researchers determined that the following went right during OUR:

- Considering the period of time examined in this research, quite possibly the most essential part of the operation was handled swiftly and without hesitation and that was DoD's initial reaction to a nation in distress.

SOUTHCOM tasked its service components upon initiating OUR, and sent subsequent FRAGOs within the first 100 hours of the operation. Inside of 48 hours of receiving task orders, the Coast Guard and Navy had ships off the coast of Port Au Prince providing aid to those in Haiti and SOUTHCOM had responders in country making strives to coordinate the effort.

- The essentials to basic life support were provided almost immediately, such as tarpaulin for shelter, water, food and security. The U.S. Military played a major role in providing security at the ports of entry and along logistics routes, which was critical as OUR progressed into the succeeding phases of the operation. Units on the ground in Haiti cleared damaged airstrips and constructed temporary piers in spite of the adverse conditions in which they had to endure. DoD responders provided medical attention to those who needed it, and victims in need of more urgent care were transported to better equipped facilities.
- Contracting personnel on the ground followed FAR procedures to the maximum extent practicable to ensure prompt support to responders. Employing commercial procurement methods in awarding firm fixed-priced contracts as they strived to streamline the contract award process through verbal, sometimes non-competitive bid/solicitation when possible—with contract awards going to the most qualified provider as the circumstances permitted; also in streamlining the procurement processes, purchases were made using cash transactions. Contracting personnel also initiated spot buys with local vendors and neighboring nations to purchase fuel for aircraft, heavy machinery, vehicles and support equipment.
- Amidst the chaos and unrest the disaster stricken nation of Haiti, the planners and coordinators of OUR managed to pool their resources in support of DoD and USAID first responders, who were then able to provide some timely relief to a nation in distress. Overall, what went right

is that the job got done—victims were fed, clothed, treated and sheltered—but how effectively the was job done is another question that is addressed below.

2. What Went Wrong

With the success story told in the previous paragraph, one would assume that DoD response operation went completely right. However, several events in the first 100 hours of OUR could have been performed better:

- Many logistics and disaster response personnel did not have adequate
- training on disaster response and most of their efforts were disorganized and inefficient. According to Hanley, the U.N. humanitarian coordinator John Holmes commented that “there are limits to being 100 percent prepared... this is a major test for all of us and we cannot afford to fail... (2010).” In Haiti, OUR was a major test of U.S./ DoD’s efficiency in disaster response operation and in spite of its efforts, DoD could not attain 100 percent performance level.
- Many of the logistics and contracting inefficiencies that hindered DoD’s overall effectiveness were due to improper preparation and planning during Phase Zero and events leading up to the operation, as well as what was executed within the first 100 hours of OUR, Phase One.
- During Phase Zero, though SOUTHCOM did conduct training exercises and hosted conferences in preparation for disaster response, many of the actions that would allow for more efficient execution of logistics and contracting support were not in place. One such example is a predefined movement plan coordinated with TRANSCOM planners, and designated personnel from SOUTHCOM to liaison at SPOD and APOD and assist in directing movements. These actions would have enhanced supply chain visibility, making the flow of material more manageable, and decreasing the amount of wasted and unnecessary material in transit. Also,

contracting personnel could have solicited and prepared a list of qualified vendors in the region, both state side and the area impacted, to be periodically reviewed and updated as needed. Such efforts could have possibly expedited the contracting process, been less costly, and instilled more confidence in the vender's ability to deliver.

- Another setback was the delay in establishing C2 in country, which was attributed to the lack of building materials and available sites cleared for construction in the early stages of the operation. Though establishing a fully functional C2 within 96 hours of an operation is most critical to the success of the actions taken beyond the 100th hour, it is still essential to note, as the C2 was to be functional within the period examined for this study. Long-range communications raised issues as well. Without a functioning C2, responders on the ground depended heavily on mobile phones, which turned out to be a scarce resource in the beginning. The inability to communicate between SPOD, APOD, and responders in country led to huge supply chain inefficiencies and lack of coordination between key players.
- “What went wrong with coordination has ranged from the elementary—ill-advised handouts of infant formula—to the complex, beginning with complaints the U.S. military turned away too many relief flights in the first days of crisis...“What’s gone wrong in Haiti?” repeated Laurent Sury, an emergency operations deputy with Doctors Without Borders. “The earthquake, that’s what went wrong” (Hanley, 2010).

C. RECOMMENDATIONS

From the research analysis, the researchers determined that earthquakes and disasters will occur, but the ability to effectively respond to those disasters depends on proper preparation, training, command and control, communication, and effective coordination between all players. The earthquake may have gone wrong, but the response operation to the earthquake disaster need not go wrong as well. Reflecting on

the logistics and contracting actions in the first 100 hours of OUR, the research reveals that the overall effort was not as effective as it could have been, which is indicative of the amount of preparation at Phase Zero. Due diligence put into Phase Zero drove the productiveness of the succeeding phases of an operation, particularly Phase One. A data logisticians must provide their managers, donors, and stakeholders sound planning based on relevant and up-to-date beneficiary needs assessments that must reflect real needs rather than third party perceived needs (Whiting & Ayala-Ostrom, 2009).

Recommendation 1:

Incorporate Phase Zero planning and preparation in disaster response preparedness.

Pre-planning for contingency contracting and logistics support during Phase Zero will facilitate quick and effective responses during disasters or other humanitarian response operations. Pre planning includes proper future requirements determination and pre-awards of suitable contracts like IDIQ and MAC, based on requirements determination and regional plans. DoD may also preposition DR requirements with Standardize list/ flow diagram to streamline the process. At Phase Zero, DR personnel must be identified and tasks assigned. Also, cultural, religious, gender, and traditional barriers must be identified when determining requirements and assigning personnel

Recommendation 2:

Incorporate the Stella's Future Model and Yoder Three-Tier Model into Planning, Development, Preparation, and Execution of Disaster Response Operation.

Incorporating the SFM will streamline and standardize DoD's disaster relief operations by standardizing training and designating disaster response contracting and logistics personnel that will speak the same disaster-response-language and work as one unit to improve DoD's disaster response operations. Areas covered under the SFM that DoD must adopt to improve its effectiveness include:

Recommendation 3:**Segment COCOM AOR into Different Regions.**

Regional segmentations will create two different staging and response locations for prepositioning of response requirements. These two areas may not share common boundaries so that if a disaster hits one segment, DoD can still respond from the second segment. This guarantees that DoD will have access to supplies and services regardless of disaster location to support disaster victims and DoD responders.

Recommendation 4:**Forge Alliances with USAID and other key players.**

Leveraging the assets provided by other military, foreign government and organizations, including NGO/PVO will save time, money and improve the overall response effectiveness.

Recommendation 5:**Proper Knowledge Management.**

Managing lessons learned and the knowledge those lessons provide is essential for preplanning, preparation and effective disaster response operations. The U.S. Army Operational Knowledge Management proposed that knowledge management supports the creation, organization, application and transfer of knowledge to facilitate situational understanding and decision making. In Haiti, situational unawareness was one of the dominant factors for the overall ineffectiveness. Therefore, DoD must not only learn from previous disaster response operations including OUR, it must adequately manage the knowledge and apply it to the different scenarios of disaster response, at Phase Zero and in real-time operations during disaster response operations.

Recommendation 6:**Standardize Disaster Response procedures and protocol.**

All DoD components tasked with disaster response duties must follow standardized procedure that will be pre-established and incorporated into the unit

commands battle orders. Supporting and supported roles will be delineated with clarity on C2. Supporting command must follow the standard (established) protocol and may not perform task without the approval of the JTF or COCOM responsible for the AOR. This will be irrespective of the rank of the specific unit commanders. This will eliminate issues like lack of established command and control, ineffective communication, and poor coordination of effort as well as duplication of efforts, waste of resources and assets.

D. AREAS FOR FURTHER RESEARCH

This research analysis can be expanded further into Phase One and the subsequent phases of Operation Unified Response. The first 100 hours of the initial phase are critical; however, it does not capture the vast amount of logistics and contracting support distributed throughout the entire operation. The researchers suggest the following areas for further research:

1. Perform a quantitative analysis of the logistics and contracting effectiveness outside of the first 100 hours.

The quantitative data not evaluated in this research may be in abundance for periods beyond the first 100 hours and would complement the qualitative analysis conducted in this research.

2. Conduct a feasibility study of implementing “Stella’s Future Model” and its impact on DoD.

This will afford DoD a firsthand understanding of how the model works and how it can be integrated into the planning, development and execution phases of disaster response operations. It will also provide the operational effectiveness of logistics and contracting support services during a DoD disaster response operation.

3. Perform a cost analysis and other implications of SFM.

This will show the actual costs savings associated with early integration of Contingency Contracting Officers (CCO) and Disaster Response Logisticians (DRL) into planning phases and life cycle of contingencies.

LIST OF REFERENCES

- Apte, Aruna. "Humanitarian Logistics: A New Field of Research and Action," Naval Postgraduate School, Graduate School of Business and Public Policy, Monterey, CA, 2009.
- Bove, Paul (2010). *Air Force's management of Haiti Airport Essential to Humanitarian Operations*. *Air Force Public Affairs Agency*.
- Business Transformation Agency (BTA). (2010). Synchronized Pre-deployment and Operational Tracker (SPOT).
- Central Intelligence Agency (CIA). World Fact Book. Haiti. Retrieved 16 June 2010 from: <https://www.cia.gov/library/publications/the-world-factbook/geos/ha.html>
- CNN World (2010). Earthquake: Haiti pier opens, road laid into Port-au-Prince
- CNN. (2010). Aid workers frustrated with relief effort. Retrieved 17 November 2010 from: http://articles.cnn.com/2010-01-20/world/haiti.frustration_1_humanitarian-aid-medical-aid-relief-effort?_s=PM:WORLD.
- Coleman, B. L, (DR). (August 2009). U.S. SOUTHCOM: Command History Overview. Retrieved 26 October 2010, from: <http://www.southcom.mil/AppsSC/factFiles.php?id=76>
- Cossa, R. (2005). South Asian Tsunami: U.S. Military provides 'Logistics Backbone' for Relief Operation. Original source: U.S. Dept. of State. Retrieved 19 Nov 2010 from: <http://www.reliefweb.int/rw/rwb.nsf/db900sid/EGUA-6A6R98?OpenDocument>
- CRS Report for Congress. (Sep 2005). Hurricane Katrina: DoD Disaster Response. Retrieve on 20 November 2010 from: CRS website.
- Department of Homeland Security. (2008). The First Year after Hurricane Katrina: What the Federal Government Did. Retrieved on 13 June 2010 from: http://www.dhs.gov/xfoia/archives/gc_1157649340100.shtm
- Elleman, B. A. (2007). Waves of Hope: The U.S. Navy's Response to The Tsunami in Northern Indonesia. Naval War College Press, Newport Rhode Island.
- Epic Disasters. (2009). The Worst U.S. Earthquakes by Death Toll. Retrieved 6 June 2010 from: http://www.epicdisasters.com/index.php/site/comments/the_worst_us_earthquakes_by_death_toll/

Federal Acquisition Regulations (FAR). (2010).

Google Map. (2010). Map of Haiti and Dominican Republic. Retrieved on 07 November 2010 from: http://www.google.com/images?um=1&hl=en&client=firefox-a&rls=org.mozilla%3Aen-US.%3Aofficial&biw=1440&bih=704&tbs=isch%3A1&sa=1&q=map+of+haiti+and+dominican+republic+and+columbia&aq=f&aqi=&aql=&oq=&gs_rfai=

Gilmore, Gerry J. (2005). DoD Has Enough Petroleum Products for Anti-Terror War. American Forces Press Service. Retrieved on 14 November 2010 from: <http://www.defense.gov/news/newsarticle.aspx?id=16915>

Global Security.org. (2010). Military: U.S. Southern Command. Retrieved on 26 October 2010, from: <http://www.globalsecurity.org/military/agency/dod/southcom.htm>

Gray, E. George. DoD Disaster Response Overview. Retrieved on 15 June 2010 from: www.aschq.army.mil/.../2DOD%20Disaster%20Response%20APBI%20ppt <http://www.bta.mil/products/spot.html>

Knabb, Richard D., Jamie R. Rhome, and Daniel P. Brown. (2006). National Hurricane Center. *Tropical Cyclone Report Hurricane Katrina*. Retrieved 14 June 2010 from: http://www.nhc.noaa.gov/pdf/TCR-AL122005_Katrina.pdf

Melnyk, L. A. (2006). Katrina Lessons Learned. Retrieved on 18 November 2010 from: <http://www.military.com/forums/0,15240,101843,00.html>

Meneses, C. Joselito. (2006). Understanding Disaster Response procedures for DoD and Federal Agencies. A Research Report Submitted to the Air Command and Staff College, Maxwell AFB. Alabama. Retrieved on 14 June 2010 from: <http://www.afresearch.org>

Modric, Jan. (2009). How long can a human survive without food or water? <http://www.healthhype.com/how-long-can-a-human-survive-without-food-or-water.html>

Multiple Sources: U.S Army Logistics. (2010). Theater Logistics CONOPS for Operation Unified Response: CASCOM Sustainment AAR. Slide 2.

Nix, D, Professor. (2010). Joint Maritime Operations. OPART Intro: Lecture Notes, Slides 24. Operational Thinking Reading. (2010). Naval War College, Monterey Program.

Planning and Execution. (2010). Naval Postgraduate School, Monterey, CA, Graduate School of Business and Public Policy.

- Poree, Kelley et al. (2008). The Joint Effects-based Contracting Execution System.
- President Barrack Obama. (2010). Remarks by the President at the United States Military Academy at West Point Commencement Michie Stadium, West Point, New York. The White House Office of the Press Secretary.
- Richard W. Goodale, Jr. (2003). In “Planning for War: a System
- Soucy, Jon (2010). Kentucky Airmen move supplies through Dominican Republic. Retrieved on 14 November 2010 from: <http://www.af.mil/news/story.asp?id=123188053>
- SOUTHCOM (2010): Area of Responsibility. Retrieved on 26 October 2010, from: <http://www.southcom.mil/AppsSC/pages/aoi.php>
- SOUTHCOM. (2010). Narrative History of Operation Unified Response.
- SOUTHCOM. (2010). Humanitarian Assistance. Retrieved on 17 Nov 2010 from: <http://www.southcom.mil/AppsSC/pages/humanitarianAssistance.php>
- Survival Topics. How Long Can You Live Without Food. (2010). Retrieved on 15 June 2010 from: <http://www.survivaltopics.com/survival/how-long-can-you-live-without-food/>
- Texas City Disaster. (1947). Report by Fire Prevention and Engineering Bureau of Dallas, Texas and the National Board of Fire Underwriters of New York. Retrieved on 14 June 2010 from: <http://www.local1259iaff.org/report.htm>.
- Texas Impact/ Texas Impact Education Fund. (2008). Austin Texas: Retrieved on 13 June 2010 from: http://texasimpact.org/Disaster_Relief_History
- Think Progress. (2010). Katrina Timeline. Retrieved on 20 November 2010, from: <Http://thinkprogress.org/katrina-timeline>
- Travayiakis, M. and C. Perry, (2008), “The U.S. Foreign Disaster Response Process – How It Works and How It Could Work Better,” The Institute for Foreign Policy Analysis, Inc.
- USAID. (2010). Fact Sheet # 6. HAITI – Earthquake. Retrieved on 14 November 2010, from: <http://www.usaid.gov/helphaiti/documents/01.18.10-USAID-DCHAHaitiEarthquakeFactSheet6.pdf>

- U.S. Army, 3rd Expeditionary Sustainment Command (2010). Mission Statement, Retrieved on 18 November 2010:
<http://www.army.mil/info/organization/unitsandcommands/commandstructure/3rdesc/>
- USCG Web Team. (2009). Magnitude 9.1 – Off the West Coast of Northern Sumatra. Retrieved on 14 June 2010 from:
<http://earthquake.usgs.gov/earthquakes/eqinthenews/2004/usslav/#summary>
- Vego, M. Operational Warfare. (2000). Naval War College, NWC 1004.
- Whiting, Michael C., & Ayala-Öström, Beatriz E. (2009). Management Research News: Advocacy to promote logistics in humanitarian aid. Retrieved on 18 November 2010 from:
<http://www.emeraldinsight.com/journals.htm?articleid=1816730&show=html>
- Yoder, E. C. (August 2010). Phase Zero Operations for Contingency and Expeditionary Contracting-Keys to Fully Integrate Contracting Into Operational.
- Yoder, E. C. (2004). The Yoder Three-Tier Model for Optimal Planning and execution of Contingency Contracting. Monterey, CA: Acquisition Research Working Paper Report Series, NPS-AM-05-002, Naval Postgraduate School.

INITIAL DISTRIBUTION LIST

1. Defense Technical Information Center
Ft. Belvoir, Virginia
2. Dudley Knox Library
Naval Postgraduate School
Monterey, California
3. CAPT Vincent Clifton
COMFISC Code 32
San Diego, California
4. LCDR Johnetta Thomas
SOUTHCOM J4
Miami, Florida